THE CULTIVATOR.

TO IMPROVE THE SOIL AND THE MIND.

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The Forces of the Farm.

SUCCESS in any business requires a thorough knowledge of the means and materials under employ. Place the levers of a locomotive in the hands of one who had never before seen this powerful machine, and instead of being able to drive it with the speed of the wind and the precision of mathematics, he would be sadly puzzled to know what first to do with his important charge. What could a plowman do if required to superintend a cotton factory? Or a blacksmith the machinery of a wholesale merchant? What could a shopkeeper accomplish if placed in charge of a thrashing machine, a horse-reaper, or a subsoil plow? We should all doubt the sanity of the man who would send for a lawyer to set a fractured limb, although he might point out to the nicety of a hair the rights, privileges, and liabilities of John Doe and Richard Roe, and their legal representatives. But it needs no argument to show the absurdity of looking for knowledge where it is not to be found; it is not, however, quite so plain to every one, that no business can be well conducted without thorough knowledge of its parts. The idea that men succeed by a sort of lucky guessing, instead of a thorough mastery of facts and principles, is quite too prevalent.

We remember some years ago, as an example, that a newly invented water-wheel was highly recommended to the public, as possessing, with an equal amount and fall of water, three times the power of the best overshot wheel. The wildness of such a claim would have been instantly evident, to many who were deluded by it, had they only known, or reflected, that the principles of gravity are such, that one hundred pounds of water descending ten feet, could never, by the most cunningly invented machine, be made to elevate more than a like quantity of water to a similar height, or do its equivalent in any other way. The heathen poet, who, in his historical fictions, spoke of wine that was twenty times stronger than common, that is, four times stronger than pure alcohol, did not commit a greater blunder, than many do in their estimates, or rather vague conjectures of the power of machinery.

Inventors of farm machines, like most other men, resemble very much a flock of sheep, and follow where some one is bold enough to lead. Hence we see that they have not struck off so much into every possible avenue, as they have travelled with the mass in certain beaten tracks. We have a plow invented for nearly every county in the northern states, but not half a dozen well constructed harrows; we have had for a long time, a vast number of thrashing machines, but until very lately, scarcely a reaping machine was known. The World's Fair, it is true, has turned the tide of fashion in the latter direction, and we shall now soon have them by scores. We have been supplied with as great a variety in churns, as in the dishes of a French cook; yet a good milking machine, a thing of much greater consequence, (counting the time consumed,) has never yet been made. We have often wondered why Yankee ingenuity had never yet devised a single good *mangle*, although hours are consumed every week, in nearly all families of this broad country of 20 millions, by the hard labor of the ironing table; yet sausage-stuffers, and sausage-mincers, paring-machines and pepper-grinders, have all had a large share of attention, although perhaps used but once a year.

We cannot but believe, that one great reason of the deficiency in these, and in many other particulars, is that farmers themselves do not adequately comprehend what is needed, and what may be accomplished. They do not possess a sufficient knowledge of the principles of machinery, in many instances, to qualify them for judging of the merits of new machines; to know how much and no more, the best application of force can accomplish; and especially to enable them to judge with some degree of confidence, whether inventors have nearly reached perfection in any particular point, or whether there yet remains a great field unachieved before them. It is here, if anywhere, that a thorough knowledge of means and materials, of facts and principles, is needed, to enable every one to conduct his business understandingly. We will furnish a few examples, by way of explanation.

The crow-bar is simple and effective, and so far as it goes, may be considered as having about reached perfection. It possesses but little friction, and a given force applied to it is wholly applied, without any loss, to the desired end. How is it with the reaping machine? One man, with the best hand-machine, will cut two and a half acres of wheat in a day; a horse is reckoned to the work of five men, consequently a two horse reaper, deducting one-fourth for the friction of the parts, should do seven and a half times as much as a single hand, or nineteen acres in a day, an amount which has been nearly reach by the best reapers. They cannot, therefore, be expected to be greatly improved in the quantity, but rather in the perfection of their work, and in cheapness and simplicity. Apply the same kind of calculation to the plow, and the reader cannot but be surprised at the great

field yet open for improvement. A cubic foot of earth weighs about 125 pounds; a team turning a slice a foot wide and six inches deep, and moving four feet per second, lifts two cubic feet of soil or 250 lbs. in each second, about on an average seven inches high. Now, a good American horse has been found in ordinary work to lift 100 lbs. at the rate of four feet per second, or 700 lbs. seven inches high per second, which is nearly three times as great as the amount effected by two horses attached to a plow. That is, five-sixths of the force applied in plowing is expended in overcoming friction and cohesion. Here is a chance for inventors to exercise their ingenuity for a long time to come, in endeavoring to lessen this loss of 500 per cent.

A two-horse team, as we have just remarked, should do nearly ten times as much work as a single hand. This remark applies to cases where the full strength of the man is exerted to the best advantage. But the gain by machinery is much greater, if well perfected, in doing what men perform to a decided disadvantage, or where their strength can be only partially applied. Such for example, is the case with some of the best seed planting machines, as compared to planting by hand; or of some of the most perfect horse hoes or cultivators, as compared to the slow and tedious process of hand weeding,—in neither of which instances is one half of the human strength advantageously applied. It is here that inventors are to look for extraordinary results. The manufacture of cotton furnishes an interesting illustration,—where the best modern machinery turns out in each day at least two hundred times as much goods as the tedious process of hands and fingers accomplished eighty years ago.

Our limits will not allow us to enter into the details of this subject, which would furnish ample materials for a volume. We only wish to *call* the attention of farmers, whose business it is to judge of farm machinery, and furnish suggestions to manufacturers, to the importance of thoroughly understanding the subject. It is interesting to look back and see what has already been done. The capital now constantly invested in farm-labor and farm-forces in the United States is not less than 500 millions of dollars per annum, although but one half of what it would have been, but for the improvements in the plow, the thrasher, the fanning-mill, the seed-sower, the horse-rake, and the reaper. What may yet be done towards reducing this enormous amount, must depend on the ingenuity of our inventors, and on the general knowledge and sagacity of our farmers.

FRAUD IN GUANO.—Every thing which brings a high price, invites fraud, and impositions in the form of spurious merino sheep, artificial fertilizers, &c., are natural results where men do not know the "beginning of wisdom," or that honesty is best policy. Prof. Norton says "the most barefaced impositions are practiced in England, certain parties having sold a species of loam resembling Peruvian guano, at a high price, the bags having been dusted, both inside and out, with some of the real article to counterfeit the true smell"—thus selling character and conscience for life to get a few weeks dishonest gain,—a hard bargain.

Hay and Fodder—Cutting and Curing.

IT may be safely averred that there is not a single operation on a farm that cannot be, and that ought not to be conducted upon scientific principles. Hence the utility, the necessity, of a scientific education of farmers. If the remark be true of farm operations generally, it is more especially so of the subject of hay-making. In this we require a knowledge of vegetable physiology, of chemistry, of *pharmacy*. Vegetable physiology will teach us the nature and functions of the various organs and parts and juices of the plants with which we have to do; chemistry will teach us the theory, and pharmacy the art, of curing and saving the article in the best manner. There is no doubt that a very large portion of the nutritive matter of hay, and all kinds of fodder, is lost by a want of knowledge of this kind. The writer of this has never seen a hay-field at *haying time*, that he was not forcibly impressed with this truth. To illustrate this subject—suppose a pharmaceutist, the Shakers, for example, were to gather their medical herbs, and cure them, and house them in the same way that hay and fodder are usually gathered, cured, and saved—what, let us ask, would they be worth? Gathered at very improper seasons, cured in such a manner as to ferment and evaporate all their intrinsic virtues, and at last housed in a place, and in a condition, to make assurance of its destruction "doubly sure," it may well be conceived they would not be worth much. There are certain rules to be observed in this, as in all things, to attain the highest degree of perfection. Every kind of hay and fodder will be good or good for nothing, according to the degree of attention to these rules. The grass should be allowed to attain the highest degree of perfection before it is cut, and that degree is found to be at the time of *flowering* or blooming, just before the seed begins to form. It being a *herbaceous* plant, the whole natural object of it is to make seed, and all its juices are, at the time of flowering, in their richest state. This is the time to cut it. If cut before this time, the juices are imperfect, and the fibrous matter immature; and if delayed beyond this time, more or less of the richness of these juices is expended in making the seed. If the seed is allowed to become *ripe*, the hay is comparatively worthless. We never saw a load of hay in the market for sale, that did not exhibit unequivocal signs of having had a very large portion of its rich qualities exhausted, either before it was cut, or in curing. When it is understood, that if allowed to ripen seed perfectly, the grass loses all its rich juices, and becomes mere dry strw—woody fibre, a little silicate of potash, and a very trifling quantity of vegetable extractive matter, the importance of cutting it at the right time will be apparent.

And here it is proper to mention another error of almost, if not quite equal importance. It is that of mixing different kinds of grass together. There are scarcely any two grasses that flower at the same time, exactly, and if two be mixed that flower at different times, one or the other will be greatly deteriorated by being cut too soon or too late. All grasses should, therefore, be kept in distinct meadows.

The curing process is, however, of much the most importance. No matter at what times the grass be cut, if

it be not properly cured, the hay will be worth less, in proportion to this imperfection. Two tons of hay shall be taken from the same field, the one cured properly, the other carelessly—and the one shall be worth twenty dollars, while the other will be dear at any price, except for mere straw. Let us descend to particulars, for the subject is sufficiently important to authorise it. Nearly the whole nutritious properties of the hay are in a fluid, or semi-fluid state, highly susceptible of fermentation; and if fermentation takes place, they will be immediately dissipated in vapor. The object to be attained is to cure the hay, by evaporating the *water* only, of these juices, leaving the saccharine and other principles in a solid state in the body of the grass. But if the juices of the grass be allowed to ferment, then all these principles are rapidly changed, and pass off with the water in vapor. The usual method of curing hay, especially in the middle states, permits the green cut hay to lay in masses till it gets more or less heated, especially the under portion of it. This heat is produced by fermentation. We usually see the hay in the swath till the next day, and then it is merely turned over, and even that very *carefully*. The underside will then be found to be very warm. Now, all this is wrong. The hay should be shaken up lightly, and loosely, so that none of it will lay in compact masses, and that the air may pass freely through it. It should be gathered into winrows as late as possible in the evening, and these should be well opened and turned, and loosened, early in the morning, so as to avoid spontaneous fermentation. If the weather be fair, the hay cut yesterday will be fit for cocking this afternoon, but it is not ready for housing or stacking. A great error is often committed in cocking hay, in allowing it to remain in these small stacks too long. When cocked, the hay is merely wilted, not cured, and if allowed to remain in cocks, will ferment there. They should be opened and spread about, and re-cocked several times before being permanently stacked or housed. Shaking hay about has a great effect in curing it, much more than is generally supposed. It exposes it to fresh air, which carries off the water, and the oftener it is shaken up, the sooner and better it will be cured. Many object to shaking up the hay while the dew is on it in the morning. This is an error. A good shaking at that time, will effectually dry it.

Many an old farmer will undoubtedly laugh at my simplicity, in thinking it necessary to give such plain, common-place notions, publicity. But if they will take a look at the hay that is daily brought to all our markets for sale, they will find abundant excuse for me. Nine-tenths of the hay thus exposed for sale, is a mere mass of dry straw; much of it made so by curing, and the rest by unseasonable cutting. Hay, in a perfect state, should be of a bright greenish color, and as odoriferous as green tea; but the mass of that brought to our markets, is of such a dull straw color, that it requires some close inspection to ascertain whether it be hay or mere *chess* straw, and you may run your nose into the middle of a load of it, (if it be long enough!) without detecting any odor at all—unless it be a musty one.

I must give the New-York farmers the credit of producing the best hay we have seen in our city markets. I have frequently used that sent by them to the Baltimore market, pressed in bales, and found it to be worth, intrinsically, twenty-five to thirty per cent more than that usually brought here from the surrounding country. And the reason of this difference in quality evidently grew out of the more perfect manner of curing, and attention to the time of cutting. There are many individual exceptions here. There is as good hay made here, as there is in the north, and as good farmers, and as scientific farmers too, but they are exceptions to the rule, not the rule itself. My object, of course, is to do my part to make all our farmers what the exceptions are admitted to be.

G. B. S.

Premiums for Reapers and Hay Presses.

The following resolutions were adopted at a recent meeting of the *Maryland State Agricultural Society*, and are worthy the attention of patentees of Reaping Machines, and Hay and Tobacco Presses. The competition for the premiums, is open to the whole country, and a jury of twelve persons has been appointed to award the prizes, after a careful and thorough trial of the machines.

Col. J. C. Walsh, of Harford, called the attention of the society to the importance of a change in the present mode of awarding premiums for certain objects which he specified, and to correct which, he offered the following preamble and resolutions:

Whereas, It being a matter of considerable importance to the agricultural community of our state, that all farming implements, especially those involving a considerable expense in their purchase, and which, if properly constructed, would be profitably and extexsively used, should be properly tested, and their merits and demerits made known by a fair and impartial examination and trial, it is therefore

Resolved, That a committee of twelve members be appointed by the chair, whose duty it shall be, at some convenient period during the ensuing harvest, to examine any reaping or mowing machines that may be presented to their notice, and to report to this society, at its annual meeting in October, an opinion of their respective merits, based upon their actual performance in the field. It shall be the duty of said committee to give notice in the public prints, of the time and place selected for the trial. It is further resolved, that to the exhibitor of the machine possessing the most valuable properties, as decided by the committee, a premium of $100 shall be awarded by the society.

Resolved, That a committee of twelve members be appointed by the chair, who shall, at as early a day as practicable, invite the proprietors of the several hay or straw presses now in use, or any others which may be exhibited, to an actual test of their qualities in presence of said committee; and to the exhibitor of the press decided by it as most deserving, a premium of $50 dollars shall be awarded by the society.

Col. Bowie then moved that a premium of $50 be offered for the best tobacco press, and that a committee of twelve be likewise appointed to make a practical test of the capacity of the machines which may be offered to their inspection, at such time as the committee may select—which motion was adopted.

Economy of Farm-power.—B. P. Johnson, in his letters from England, in speaking of the skilful farm arrangements of J. J. Mechi, the celebrated English agriculturist, says that by means of an engine of six-horse power, he drives a pair of mill stones for grinding feed, threshes and dresses grain, pumps water, cuts chaff, turns the grind-stone, raises the sacks of grain, and the waste steam cooks the food for cattle and swine—the work being all performed in a first rate manner.

Pruning and Grafting Shears.

Good treatment of fruit trees is always promoted by convenient tools; and the excuses for negligence are lessened with every facility for their proper management. For many of the operations of pruning, shortening-in peaches, &c., where branches not over an inch in diameter are to be cut off, the hand-shears will be found exceedingly convenient, and do the work with thrice the rapidity of the knife.

These are usually made as shown in the annexed figure, (Fig. 1,) and their great power depends upon the "draw-

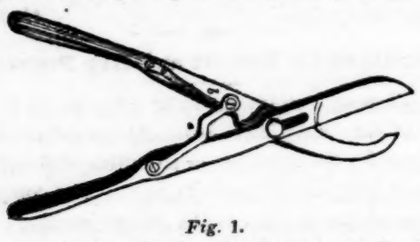

Fig. 1.

cut," or sawing motion imparted to the blade by their peculiar construction. The principal cutting blade has a movable center, so that when the handles are pressed together, the connecting bar *a* draws this blade downwards, giving it a compound motion, and increasing its power many fold over the simple cutting movement of a pair of scissors. The spring *b* serves to throw the shears open when not under the pressure of the hand.

This instrument has been known among gardeners for many years. A much simpler mode of obtaining the full power of this *draw-cut*, more especially as applied to cutting off and slitting stocks for grafting, was described some years since in the "Fruit Culturist."* It may however, be applied with equal advantage to any kind of shears for pruning. The annexed figure, (Fig 2,) re-

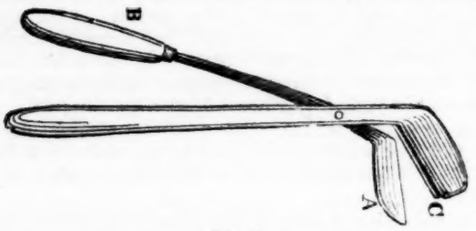

Fig. 2.

presents this instrument as used for grafting. The thin blade A, two or three inches long, is set at an angle with the handle B, of about a hundred and twenty degrees; and for this very reason, when the shears are closing, the

Fig. 3.

blade makes a draw-cut towards the concave bed C, which is placed against the stock to be cut. A tree an inch in diameter is chipped square off by this tool, with as much ease as a jack-knife will clip a carrot. This grafting instrument may be at once transformed into shears for pruning, by substituting for the bed-piece C, another and blunter blade, Fig. 3.

In order to make the principle of the working part of this instrument more clearly understood, we annex two simple figures, (Fig. 4,) the one representing the objectionable mode, sometimes adopted, of placing the pivot at the angle in the blade, the dotted lines (which are nothing more than circles described around the pivot *a* as a center,) clearly showing that this blade cuts only at right angles,

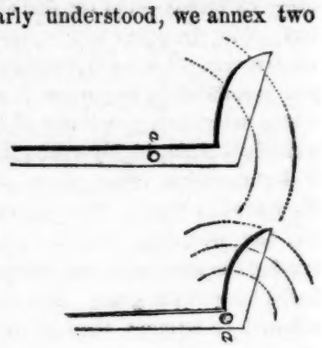

Fig. 4.

and consequently does not possess the power of the other blade, where the pivot being placed below the angle, the cut is made obliquely,—it has the *draw-cut*.

We have been surprised that so few persons have ever used this improved form, and that its merits appear to be so little known, although several years have elapsed since it was made public. Not only in journals of the day, but in elaborately written books, the old construction alone is given. Within a few years, an ingenious but complex "stock-splitter" was figured and described in the Horticulturist, by A. FOOTE, of Williamstown, Mass., and has been much commended; but although great force is given to the blade by the handle and small wheel, yet it lacks the *draw-cut*, and the power, possessed by the instrument already described. Our object in thus alluding to this subject is not only to call the attention of cultivators, but to induce some of our excellent American cutlers to improve the instruments they are now manufacturing.

Guano and Lime.

Wm. Boulware of Va., has furnished the American Farmer the statement of an interesting experiment, showing that guano is not so evanescent in soils as it has generally been believed to be. Three years ago, 50 bushels of lime per acre was applied to a field of corn in spring. The next autumn, two acres of this field were dressed with 200 lbs. of Patagonian Guano, and the whole field sown with wheat. A part was sown with clover the next spring. The wheat looked much the best on the guanoed part during spring, but lost much of its superiority in the drouth of summer, the soil being light. But the clover took well, and the next year yielded a luxuriant crop after the guano, but on other parts of the field was not worth cutting. After the second crop of clover, wheat was again sown, and on the two guanoed acres it was one hundred per cent better than on that which was limed only, and otherwise of equal fertility.

REDUCING BONES FOR MANURE.—The American Farmer gives the following method of reducing crushed bones without sulphuric acid. Mix two bushels of ashes and one of salt, with each bushel of crushed bones; moisten the bones first, and leave the whole in pie four or five weeks before using the mixture, shovelling it over two or three times during that period."

* This instrument was invented and successfully used, by the late ABEL THOMAS, of Aurora, Cayuga co., N. Y., and has since been proved of great value by those who have adopted its use; the writer of this notice after fifteen years trial can speak confidently of its merits.

On Raising Horses.—No. 2.

I closed my last communication with a promise that this one should relate more particularly to breeding. This is a subject of great interest and importance—one involving many intricate and curious phenomena, and one which may be both studied and practiced with profit, by every intelligent farmer in the world. But to study it with profit, requires constant and long continued observation of those subtle phenomena, which often involve such apparent contradictions, as to lead the impatient superficial observer to regard the whole matter as either a hidden mystery of science, or a blind subject of chance. To practice it with profit, requires that confidence in its issues, that determination to succeed, which will insure a proper prepation for it, and a deliberate purpose to make it a business—not a sole business, but one that will be strictly attended to—and pursued with diligence and forethought, with a view not only of advancing science, but of increasing wealth.

And I may here remark, that any person who expects to reap the profits from this department of husbandry, of which he so often hears and reads, without pursuing it in such a spirit, and with such a purpose, will meet with decisive disappointment.

The great error has been, that farmers have always regarded the raising of colts a collateral and minor branch of business—much on a footing with chicken-hatching and bee-swarming—to receive the attention of boys only, during odd hours, and to cost but little, first or last. The mare must be a cheap or unsaleable one—perhaps crippled. She must go to some neighbor's two-years-old, gratis, and do as much work during the year, as the gelding at her side. If the colt is born alive, it must follow the dam at her daily toil, and live on what it can get until winter, when it is turned into the yard with the cows, and bull, and oxen, to eat straw and stalks until spring; and if one or other of its companions above named, does not suddenly end its life long before that time, when it is four or five years old, its owner may perhaps get for it, sixty-five or seventy dollars—i. e., an old buggy waggon, a yearling bull, and silver watch.

Now, certainly, it is no marvel that such persons should testify so positively against the profits of *breeding* horses. *They*, of couse, can buy, not only cheaper, but better, than they can raise them. But to those who regard it more intelligently, as a branch of business requiring the same relative care and capital that is required for the successful raising of crops, or the making of cheese or butter, it will always prove to be an employment as profitable as it is pleasant and instructive.

But I am forgetting our excellent author. Of the selection of mares, he says:

The most practicable, and generally the most profitable and satisfactory course to be adopted, for the establishment of a stud of brood mares, is that of purchasing good shaped animals, combining the most fashionable blood that can be obtained, and which have been already tried in the stud, as well as on the turf, or the road. Those only, should be admitted, possessing the recommendation of sound constitutions, and freedom from hereditary defects or blemishes, with good legs and feet—uniting the sources of those perfections, with the symmetrical proportions of the body, on which is dependent the position of the legs, and to a great degree, their quality.

"Like begets like," is a maxim which, although not infallible, ought not to be forgotten. It is more frequently applicable to defects than perfections. As it is more frequently the case that hereditary imperfections, and constitutional defects, are entailed on the offspring, than otherwise, too much circumspection cannot be observed in these particulars.

What defects are constitutional, or hereditary, and what are not, our author intimates, can only be determined by circumstances. As for instance, blindness, or roaring or spavin, or curbs, may be owing to accident, violence, cataract, malformation of joints, &c. &c. In the former cases they would not probably prove hereditary—in the latter they sooner or later would.

As to the age at which mares should be put to breeding, our author says:

It has often proved the case, both with mares and stallions, that their best foals have not come forth till they became advanced in years: this however, more generally applies to stallions than mares. I am quite unable to state the cause, or even to assume the reason, neither have I ever met with any person who could do so satisfactorily.

But we are not to infer from this remark, that we are advised to select aged mares as breeders, for a little further on we are told that,

To commence breeding with an old worn out creature, sixteen or seventeen years old, cannot be sanctioned, the object being profit, by breeding fine, vigorous and powerful animals. To obtain a good sort of mare, it is far better to give a good price for one at six or seven years old, than to attempt the speculation with one whose infirmities render it very problematical, whether her produce will be worth rearing. Many breeders, on the other hand, appear to covet very young mares, but from the observations which I have made, I have no reason to recommend them. Mares will continue to breed till five and twenty, sometimes till they are nearly or quite thirty years old; but as they approximate to that age, their produce is generally smaller than during the more vigorous term of their lives.

I will close this article with one other extract, which I think suggestive and pertinent:

It is a matter of opinion whether the offspring partakes most of the faculties of the sire or dam. They no doubt participate in both, though from which they shall derive the greater amount of perfections it is difficult to determine.

In some instances it may be observed that all the produce of certain mares partake of her peculiarities, while, on the other hand, some mares will throw foals whose characteristics follow their sire; and, on some occasions peculiarities are traceable to grand-sires, grandams, or even more remote kindred. These are subjects which demand attention. The breeder who devotes most skill in the selection of suitable animals to breed from, will assuredly be more successful than one who leaves all to chance.

And now, reader, you perhaps have had patience to read the whole of this article. What dees it amount to? What does it teach?

Does it, in the first place, claim for the subject, the dignity of a study, and a business? Does it insist that those who pursue it shali employ capital, fore-thought, patient observation and an indomitable determination to succeed? Does it awaken in you any new energy? Does it convey any new truth, or remove any old error? Does it even set you a thinking? If so, I am your obliged and humble servant, B. *Syracuse, March* 5, 1852.

The mind is never right but when it is at peace within itself, and independent of everything abroad.

Experiments in Growing Indian Corn.

EDS. CULTIVATOR—Agreeably to promise, I enclose another experiment on "Indian Corn," that, in itself, would seem of little importance; nor should we attach too much importance to experiments of this kind, until they shall have, by oft repeated trial, placed the question beyond a doubt. Who knows which will produce the greatest yield to the acre—grain from the *large end*, from the *middle*, or from the *small end* of an ear of corn? Who knows but what we, by shelling off the grains from the large end, and the small end, for the pigs, and planting the middle, are not doing just the reverse of what we should do? I venture to predict that very few, if any, *know* anything about it. We judge—we guess—but what does judging and guessing amount to? We do not guess at the amount of interest we are to receive or pay. No, we prove by *facts* and figures, the exact amount. Now if we can arrive at a few facts in seed planting, we may derive as great great advantage from it, as in accurate reckoning of interest.

In the following experiments, I do not claim to have established any "facts," but rather to have seen the "finger board" that points the way to the field of experiment, wherein there are many truths concealed, which we have only diligently to seek, in order to find; and to have started in pursuit of a few, with a full determination to some definite result.

On the 14th of May, 1849, I selected an ear from my seed corn, (of the eight rowed, yellow variety,) well capped over the end with sound grains. I shelled and planted three hills, of five grains each, from the large end,—three from middle, and three from the small end. Soil similar, and treatment alike in every respect. Top stalks cut 20th September. Corn husked 28th October, and weighed as follows:

	lbs.	oz.
3 hills, seed from large end,	2	00
3 " " middle,	1	12
3 " " small end,	2	4

My whole field was injured some by worms at the roots, this included. The produce is not a pound to the hill, which must be regarded as a light yield. It will be seen that the small end takes the lead—half a pound over one, and a quarter of a pound over the other. This resulting so different from what was expected, led me to institute the following:

On the 18th May, 1850, I planted 30 hills from one ear, 10 from each end, and 10 from the middle—five grains to each hill, of uniform depth and soil. Treatment alike in all respects—grew unmolested, and produced a fair yield. Top stalks cut 12th Sept. Corn husked 9th October, and carefully weighed. Stalks also weighed—resulting as follows:

	Stalks.		*Corn.*		*Total.*	
10 hills, grains from large end,	14 lbs.	4 oz.	12 lbs.	8 oz.	26 lbs.	12 oz.
10 " " middle,	14	14	12		26	14
10 " " small end	18		13	8	31	8

Allowing 4,000 hills to the acre, and assuming this experiment as a guide, the difference in favor of planting seed from the small end, would be 10 bushels, 40 lbs. to the acre, compared to that from the middle, and 7 bushels 8 lbs., when compared with the seed from the large end. The large end takes the preference over the middle, by 5 bushels, 20 lbs. to the acre. The grain from the small end produces more stalks than the middle, by 1,256 lbs. per acre, and 1,500 lbs. more than the large end. Now, *why* this should result so, is more than I am able to explain. *That* it is so, I have proof positive.

On the 24th May, 1851, I selected an ear from my white corn, *not fully* capped over the end, and planted 30 hills, as in the above; and though my man exceeded orders, and cut it in my absence, yet I had observed, during its growth, that while that from the large end and middle were very nearly alike, the corn from the small end was not near as good. Hence, I *conclude*, if these experiments will admit of anything like a conclusion, that where the cob projects beyond the grain, the lower grains being imperfect, should be rejected; but where the ear is well filled out over the end, these grains should be first chosen for seed.

A neighbor, on whose statement I can rely, says he once planted, through the carelessness of his men, about 20 rows of corn from the small end of his seed ears, which had been carefully shelled off, and put aside as unfit to plant; but greatly to his surprise, on harvesting the crop, it was impossible to discover any difference. GEO. W. COFFIN. *Amenia, Dutchess Co., March*, 1852.

Treatment of Strawberries just before Fruiting.

We have repeatedly urged the importance and shown the advantages of irrigation; but where this cannot be adopted in practice, mulching is a good substitute. The following mode of treatment is described by J. Cuthill in Hovey's Magazine, as practiced by Joseph Myatt, the celebrated strawberry raiser, and by himself. "Having no water near him, Mr. Myatt depends entirely upon the immense quantity and the quality of his manure for keeping the ground moist, together with a good coat of straw; but where manure is scarce, perhaps my plan, which I have practiced for many years, would be the best. I always mulch between the rows with fresh straw, mixed with horse droppings, laying it on at least an inch in thickness, just when the plants are coming into flower; and if the weather is dry, I water frequently, but not over the flowers, until all the fruit is set. By the time the latter is ripe, the strength of the manure is washed down among the roots when they most want it, leaving the straw clean and sweet."

Spent tan has been extensively recommended and considerably used for mulching strawberries. But N. Longworth of Cincinnati, who never adopts anything hastily, says, "Tan I have discarded. It soon rots and renders the fruit dirty. In its green state it injures the flavor of the fruit. I prefer the old covering, from which the plant takes its name, cut straw."

BEET SUGAR IN FRANCE.—The *Plough, Loom and Anvil* informs us that an acre, well cultivated, will produce in the West Indies, thirty tons of *plant* cane, or 6,000 weight of sugar, while an acre of beet will yield only 18 tons, producing 2,100 weight; yet notwithstanding this, the importations of sugar from French colonies into France is rapidly diminishing, and the manufacture of beet sugar constantly increasing, the duty being the same on both. This result is ascribed to the superior advantages of *proximity to market*. The annual duties on French beet sugar are now 30 million francs.

The Potato—Its Culture and Diseases.

MESSRS. EDITORS—I am well aware that the "potato rot" has become a hackneyed and exhausted subject. I have no intention of undertaking to say what causes the rot, or what will cure it, but simply to give the result of my experience the past season, and perhaps add a few remarks on the crops of others, which have fallen under my observation, and let others draw their inferences.

First, then, we say, that last spring we had but very little confidence in planting any potatoes at all, in expectation of a crop. We, however, plowed a small piece of sward land in April, and immediately planted it with early potatoes. This was a warm. dry loam, resting on limestone. No manure was applied, and no rot affected the crop. Yield very good.

Second. A few days later we plowed another small piece where potatoes were raised the year previous. Soil, sub-strata, and management, the same. A very few rotten ones were found here.

The third parcel were planted around a corn-field, which was in clover the previous year. Soil, dry loam, lying on hard pan. Plowed late in April, and planted the middle of May. No manure applied. The variety planted here were peach blows, which were dug in October. On the headlands, where the teams turned in plowing, and of course trod the ground into greater compactness than in other parts of the field, a portion of rotten potatoes were found; in other parts none.

Our fourth experiment was on a piece of old meadow. Soil, a loam, inclining to clay, resting on, and very near limestone. Land plowed, harrowed, and planted, early in June. Potatoes hoed once. Crop dug 15th of October, and none rotten. No manure was applied to this piece.

Our next, and last experiment, was on a piece of black loam, in a low meadow. Subsoil, clay. Land plowed, harrowed, and planted without manure in June. The crop, which was good, was harvested near the close of September. No rot. The dry weather probably contributed much to the benefit of this last crop, for had the summer been rainy, the ground would have been miry to the subsoil, while, as the season was, it was light and friable from the 20th of July.

Thus much for our own experience with the potato crop the last season—and from it we derive the fact that early or late planting is not productive of the rot, nor remedial of its consequences. We also find that light, porous soils are the best, as in such soils no rottenness was found—while in the same soil, rendered compact by the trampling of animals, the plague commenced. Hence, we venture to inquire, if thorough and frequent sub-soiling, after underdraining, which latter will have a tendency to equalize the moisture, may not be beneficial or effectual, in stopping the disease.

The influence of manures in this matter, is worthy of consideration. A neighbor, who planted early, to enable his crop to escape the rot, on a dry, limestone soil, manuring in the hill with common yard manure, found the disease at work the latter part of August, and early in September he dug all, with a loss of a large proportion. Many similar results were seen, which leads to the conclusion, that the use of such manures in potato culture, must be abandoned. Yet we are confident, that loose, unfermenting manures, such as straw, swingle tow, and indeed litter of almost any kind, may be applied with good effect. Yours truly, W. BACON. *Elmwood, Jan.*, 1852.

MESSRS. EDITORS—I too should like to say a very few words on the potato disease. This subject has engrossed the public mind for many a year, and the truth of the cause of the disease in question, is now as far from being settled, according to my humble opinion, as it was on the first day of its appearance.

A writer in the N. E. Farmer of September 13, 1851, says, "The cure of the rot, if ever found, will most likely be the result of scientific investigation and experiment. Harvey discovered the circulation of the blood, and Sir Humphrey Davy invented the safety lamp; and if the cause and cure of the potato rot are ever ascertained by the living men of New England, we venture to predict it will be by such men as Dr. C. T. JACKSON, Dr. HARRIS and Mr. TESCHMAKER."

This prediction may prove true, and thanks to a higher power, it may not prove true. "The race is not to the swift, nor the battle to the strong—but time and chance happeneth to them all."

I have watched the progress of the potato disease for ten years, and I have read the writings, I should think, of some hundreds—and what is very remarkable, no two of that number have agreed on the cause or cure of this formidable disease. And I am pleased to know, and say, that the subject is still open for discussion. And I am not one that thinks no great truth can be discovered, except by the master minds of the age—far be it from me to subscribe to such a doctrine—truth is mighty, and it is said, quaintly, that her seat was in the bottom of the well—then why may not some honest Jonathan, with his bucket or grappling-iron, draw her up.

The potato in South America, where it is indigenous, is never diseased. Now if this be a fact, what is the inference? That the potato in North America is an exotic, and needs special care and protection to bring it to maturity. Has it had a common care, or the least protection against a worse enemy than man, that of early frosts on the vines? The farmer has not been particular in planting early, in selecting the best seed, nor in his choice of the best varieties for his use—but has thought the potato, like the sunshine and rain, was such a common blessing, that he considered it no blessing at all—until he was fearful he should lose it.

It is hardly worth while to say that in the potato family, there are a great many varieties—some coming to maturity in four months, some in five, and some again would require six months and perhaps a longer time. The Long Red or the La Platte potato, which has not been in this country fifty years, has never yet found a season long enough in New England to mature the tubers, although they have grown to a great size, and for many years were the farmer's hope for fattening cattle and swine. What farmer boy is there, that cannot well remember the effect of the first hard frost in September, on the Red potato vine—on the certain death of the vines, from top to bottom—and all the *black*, *green*, and *blue bugs* between this and Nova Scotia, could not have done the work so effectually, in a month, as Jack Frost had done at one visitation. Now just remember that this casaulty has been an annual visitation—there has been no exception to the rule—the Long Red potato has never ripened its fruit—and yet these potatoes have been taken and planted for seed, again and again, without any material sign of decay until within about ten years—since that time they have been sadly diseased. The only wonder is, that they have shown such tenacity of endurance, and that they did not flare up ten years before. I suppose all will agree with me in this one item, that when the vines are killed, the potato ceases to grow. Then, for the sake of the argument, I admit, that the Long Red potato has never had a season more than half or two thirds the length that it required to bring to full perfection the tubers—and what must be the result of this long course of planting half grown and half ripe potatoes, but an entire failure sooner or later. Does it need a "ghost from the vasty deep to tell us of this self-evident fact"—that "like begets like?" This when reduced to plain English, means, that if you plant imperfect seed, you will get imperfect fruit.

There are a few varieties, such as the old English White, a small black potato, and perhaps some others, appear to ripen their tubers before the early frosts appear—these perhaps have become acclimated, therefore, have not had this *frosty ordeal* to go through that most of the others have had.

The next question that suggests itself—what is the remedy? And is there any? Yes, there is a remedy—we must go back to first principles. Begin *de novo*, must be the only certain remedy. Import from South America, such varieties, and such only as require a short season there, and plant them early in this country, and if the

season proves long enough to ripen the tubers there will be no fear of rot.

Those varieties that as yet appear to do well with us, should be retained,—selected with more care for planting, and above all, to be planted very early.

The Chenango has been considered a very early variety—but now it is a very rotten one—it has had its frosty time in Maine too long, to depend on it for future use. I have no doubt that if the Long Red or the Chenango were carried to South America, and there planted, they would show their old tricks—for their vitality is impaired. What may be said of the Long Red, may also be said of all other varieties, in a greater or less degree—the above variety being the best marked in its sojourn among us, I chose it for the purpose of demonstration.

Now if any one will prove to me, that the potato in its native country, is alike diseased as in this, then my theory goes for naught—and "I take the odd hits." ALF. BAYLIES. *Taunton, Mass., Jan.* 31, 1852.

MESSRS. EDITORS—We have read a good deal about the potato rot, for the last few years. We are as much in the dark as ever, as to the *cause*, and as *theories* are getting to be something of a bore, I will merely give my plan of raising *sound* potatoes.

I select a loamy soil—think a sward best—plow eight inches, (subsoiling is favorable of course.) I use the variety called the *Early Shaw* potato; plant in April; from ten to fifteen bushels to the acre. The Early Shaw is only tolerable as a table potato, but is the only variety with us, which escapes. No manure, (yard manure,) should be used, as it gives a tendency to rot. Hoe well, twice—hilling lightly once. To sum up—plant on good quick soil, an early sort of potatoes, early in the season. P. *Sennett, Cayuga Co., N. Y.*

EDS. CULTIVATOR—I wish to bring to your and your correspondent's notice, a new disease, (or it is so with us,) differing from either the dry or soft rot. I first saw it three or four years ago, and from that time it has gone on increasing, and last fall whole fields were affected by it, and almost every tuber.

The first appearance of the disease is roughness of the skin in spots, and slightly raised, looking very much like a wart, but seemingly as fresh as any other part. This takes place about the last of July, and these warty excrescences gradually enlarge upwards, sideways, and into the potato, after a while assuming a reddish appearance within and then a black. At the latter stage, small worms, similar to the radish worm, are sometimes found within the decayed part, and to it some have ascribed the disease, but I think wrongly, as I have failed to detect any but full grown ones, and in a large majority of tubers, there was no worms at all, at any stage of decay.

Perhaps some may say it is nothing but the dry rot; true, it is a dry rot, but nothing like what is understood as the dry rot in potatoes. Some will have only one spot on them, some a dozen, and some mostly covered over, and the rest of the potato, without and within, perfectly sound. As far as my knowledge extends, this disease is confined to turf soils, and is worst on the driest ground. The disease is a great drawback on the the value of the potato, and renders many of them totally unfit for market. I hope these few lines, hastily thrown out, may call the attention of your readers to the subject, and be the means of throwing some light on this new and formidable enemy of the potato crop. A SUBSCRIBER. *Chester, Orange co., N. Y.*

A MODEL FARMER.—A correspondent of the Ohio Cultivator, says, "While at the east a year ago, I met a farmer residing near Auburn, N. Y. His farm, containing 10 acres, was cultivated in a high degree; his house was in excellent architectural taste, his yard and garden planted in good order and dressed with care, his out-houses neat, his fences new and painted, and all things in admirable style, simple, yet neat and truly tasteful. I was much surprised when he informed me that he and his family performed all the work—that he did not work hard—and saved something every year.

Transplanting Trees for Fences recommended.

EDS. CULTIVATOR—The old white oaks are dying in many places in Western New-York. Very few live longer than two hundred years, and a large portion not more than one hundred and fifty. In this vicinity the wood of the trunk and limbs is often perforated by the larvæ of a small insect, which soon kills the branches, and in three or four years the tree dies. Many farms are already deficient in timber for rails, and their owners will be obliged to adopt some other method for fencing their premises. I think transplanting trees at a suitable distance for fence posts, would be a cheap way of obtaining a durable fence. Were it done along our road sides, the shade of the trees would be refreshing to travellers; it would render the appearance of the country more beautiful, and their trunks would be permanent posts, to which wires or rails might be attached.

Several years since I saw the Sycamore, or Button Wood, (Platanus occidentalis,) in use for fence posts on the east end of Long-Island. They were planted at intervals of about twelve feet, and rails mortised into their bodies. The growth of the tree soon embraced the ends of the rails, and all that was necessary to keep the fence good, was occasionally to have a new rail, when an old one became rotten. A better plan would probably be to have strong wires inserted through the bodies of the trees.

In low moist grounds, the large yellow Willow, (Salix vitellina, Lin.) would be suitable. It grows rapidly, and there would be little trouble in transplanting it; the mere insertion of the limbs in the spring being sufficient, which can be done very rapidly by the aid of a crow-bar. A neighbor has trees of this willow better than two feet in diameter, from branches stuck in the earth little more than twenty years ago. S. B. BUCKLEY. *West Dresden, Yates Co., N. Y., Feb.,* 13, 1852.

Extirpating Sweet Flag.

Observing an inquiry in your September or October number, of the best way to get rid of sweet flag, I will state a successful attempt of my own. Some ten years ago, I bought a piece of ground containing four considerable patches, which I resolved should be destroyed. Some of it had not been set more than 8 or 10 years, and although mowed every year, it was covering a quarter of an acre, and was likely to spoil the meadow. To remove it, I took my team and hired man after haying, and with two sharply ground shovels we commenced operations. I found the main root to run horizontally, very near the surface, and from these, thousands of small ones extended downwards. We first cut the surface into square chunks, and then running our sharp tools under the large roots, and cutting off the numerous small ones, we removed them and carted them into the barn-yard, where, after remaining a year, they were worked into good manure. My man told me the small roots would spring up and form a solid mat of flag; but nothing of the kind has since made its appearance in the meadow, which is now growing red-top grass. E. VAIL.

THE VALUE OF BONES.—The American Farmer says that every 40 bushels of bones dissolved in sulphuric acid, (about $\frac{1}{3}$ of the latter,) is equal to 200 lbs. of guano.

Surfeit of Fruit Trees.

The best growth, and the finest fruit, are always to be expected when the tree is furnished with the materials of nutriment in just the right proportion. If greatly deficient in any essential ingredient, the tree languishes from starvation. If any highly nutritive substance is in a large overdose, the tree may be surfeited or poisoned. We have seen a fine cherry tree as completely killed by embanking it heavily with hog manure, as any animal with a dose of arsenic. But in the eastern and middle states, this is a rare evil. It sometimes happens, indeed, that pear trees are rendered more liable to blight, and peaches to frost, by high manuring in low rich valleys. The great difficulty, however, throughout this region, is *the starvation* of fruit trees. There is not one case in a hundred, where better fruit, and more of it, would not be obtained by a deeper and a richer soil for the roots to run and feed in; or by the removal, by means of clean culture, of all weeds, grass, or other vegetable growth, which may rob the tree of its full share of the riches of the soil.

In large portions of the great fertile "West," the case is quite different. The long and hot summers, in connexion with the severe frosts of the winters, render more caution necessary in the application of manure, the natural richness being often enough, without any manure. As applying to such localities, the following remarks, with which we have been favored by a correspondent at Jefferson Valley, N. Y., will doubtless prove interesting.

"A surfeit of trees manifests itself by the appearance of the leaves on the growing twigs. Instead of shooting out rank and large, they are thrown out in whorl-like clusters. The twigs which support them grow a few inches, and then often commence dying at their extremities, having a black tip. If these twigs do not die in their whole growth, the leaves finally fall off, leaving a small stinted years growth, with its buds crowded all along its length, frequently not the sixteenth of an inch apart.

"Thus, by over feeding, one years growth is worse than lost, for several years will be required to establish a healthy action again. This disease frequently shows itself on grafts set in a large thrifty stock, when the top is all cut off at once, especially if the tree stands in a rich soil, and the season is a wet one, so as to dissolve a great amount of food.

"If any one doubts the correctness of this view, he can satisfy himself by a few weeks experiment in the month of June. A tree may be planted in front of a barn-yard, in any rich spot where it will receive the washings of manure. Every twig on it will soon take on a whorled appearance. Let the earth then be all removed from the roots, and its place supplied with yellow loam, and in a few weeks more the twigs will shoot off, and take a more healthy appearance. I have tried the experiment on young pear trees, with unvarying results.

"Another effect of surfeiting, is the splitting of the trunk, from root to branch. I lost dozens of the choicest varieties of cherry trees, from this cause, in early life. But I soon discovered that cherry trees on thin soils never split, and that by removing the highly manured soil from around their roots, they will remain sound.

"Old cherry trees cannot be surfeited, but old apple trees may be. I have seen an old apple orchard seriously injured by a heavy coat of manure spaded in. In August the whole orchard presented the appearance of having been nipped by frost; the tip of every twig having a black appearance, on the top of a cluster of miserable looking leaves. JAMES FOUNTAIN. *Jefferson Valley, N. Y., December* 18, 1851.

To Farmer's Boys—A Hint.

The writer of these remarks was once a farmers' boy, and speaks from experience when he recommends all farmers' sons to keep a daily register of every thing interesting coming under their observation, relative to their business. The time of planting or sowing crops, with the results of late or early planting appended; the effects of any peculiar mode of manuring; the benefit or detriment from thick or thin sowing; the kind of seed; the time or manner of harvesting; the results of draining, of deep or shallow plowing, and of numerous other matters, and especially including the cost and profits of each crop, if accurately recorded, would not fail to yield a great deal of interest as well as usefulness. The time of the appearance of birds, insects, the flowering and fruiting of trees, or anything else in relation to nature and its productions, would assist very much the acquirement of knowledge on these subjects, if made a matter of record. I am sure it would be a delightful employment, both at the time, and by its examination afterwards.

Now, all that is necessary is to get a small blank book, with a flexible leather cover, which may be had for a dime at any book or stationary store—and rule each page into two colums—the first for the record of planting, sowing, and all other operations during their earlier stages; and the second column for the registry of the results, directly opposite, on the same page. By comparing these results with the operations which produced them, a great deal of valuable practical knowledge would soon be obtained.

Another advantage might result from this practice. When any operation was deferred till too late, and loss was occasioned thereby, make a memorandum of this fact at the proper place in the second column, by the examination of which, the second year, this difficulty might be avoided. Many failures occur from a want of seasonable attention; such a journal would therefore leave an excellent memorandum book to refer to daily the second year, or any other year afterwards, to remind one of what must be done at the time.

Would not this be worth a thousand times its cost, by way of making accurate, intelligent, practical, and successful farmers, of lads and young men in the country, besides improving their knowledge of writing? A PLOWMAN.

WATER IN BEETS.—According to Dr. Salisbury's analysis, the fresh roots of the turnip-beet contain about 93 per cent of water, or thirteen-fourteenths, and the fresh tops about 89 per cent. This is a larger proportion than is found in the parsnip or carrot.

The Cultivation and Management of Flax.

The culture of flax is yearly becoming a subject of increasing interest to the farmers of the northern and western states, and hence the importance of disseminating through the agricultural press, the most reliable information, that can be obtained. The American farmers, so far as our knowledge has extended, have not been so successful in the culture of flax, as the adaptation of the soil and climate of the country would warrant; and this defect, in a majority of cases, may be traced to the imperfect system of management, and not to any defect in the soil or other natural cause. Having had a very extensive acquaintanct with flax growing, cultivating some seasons as high as fifty acres, and in every instance obtaining the most satisfactory returns, both in seed and fibre, for both of which purposes the crop was grown; we shall scarcely be accused of recommending details to others that were not fully treated on a large scale, and the flattering results of which, should form a sufficient reason why a similar practice may with confidence be urged upon the attention of others, interested in this department of agriculture.

Flax may be successfully grown upon land that will yield heavy crops of barley or oats. The soil should be rich, deep, and mellow, and the subsoil, if clay, should be permeable, by which the roots will extend to a great depth. The soil should not be manured for flax, but the crop preceding it may be manured with impunity, so far as relates to the flax crop, and the yield of seed will be increased and the quality of the fibre improved, in ratio with the increased quantity of manure applied for the previous crop, provided that the soil be deepened in the same ratio. It is on this account that no other preparation of the soil seems to be so well adapted for flax, as a well manured and thoroughly cultivated field of potatoes, in which case the land should be plowed in autumn, and the flax sown the following season, about the period the indigenous fruit trees of the country put forth their blossoms. Flax may be sown after other crops besides potatoes; and the next best course is to select a recently broken meadow, which had raised only one crop since it was broken, and by deep autumn plowing, and a spring plowing, and thorough harrowing and rolling, the soil will be ready for the reception of seed. The older the sod, and the more thorough the decomposition, the greater will be the yield of both seed and fibre. Almost any other crop besides potatoes, if the ground be liberally manured, and the manure be thoroughly decomposed, will answer to precede flax; but a very abundant yield of seed, and a superior quality of fibre can only be obtained upon a rich and well cultivated soil; and unless due regard be had to these particulars, it is worse than folly to hope for flattering returns.

Something more than a suitably rich soil, deep culture, early sowing and a finely pulverised soil, are necessary to obtain success in flax growing, though none of these conditions can be dispensed with, without imparing the prospect of an abundant crop. The seed should be of good quality, free from the seeds of weeds, and the quantity sown should in no case be less than two bushels per acre, which is about double the quantity of seed sown in this conntry. Then if there be any prospect of the crop sustaining injury from drouth, an application of gypsum, salt, and house ashes, at the rate of one bushel each of the two former and three of the latter, should be applied broadcast upon the young flax plants in their earliest stages of growth, by which a uniform and luxuriant crop will be the result.

Where pains have been taken to bring the soil to a suitable state of tilth for flax, the land may be seeded with clover, and the young clover plants will obtain a larger and richer growth, and be subject to less casaulties, than if seeded with any other spring crop. This will be especially so when the top dressing of artificial manure, recommended as above, is applied. The pulling of the flax will loosen the soil around the roots of the young clover, and thus greatly promote its growth; and where it is desirable to seed also with timothy, the latter should be sown as soon as the flax is pulled and removed off the ground. If the soil be rich, and will bear such a severe course of cropping, a crop of winter wheat may be made to succeed the flax, in which case only one plowing will be requisite for the wheat. The flax, when managed as here recommended, will leave the ground perfectly free from weeds, and the land will be in better condition for wheat than if a very expensive process of summer fallowing had been adopted. Flax, however, is a very exhausting crop, more so perhaps than any other spring crop, and the question to be decided is, whether two exhausting crops following in succession, would not tax the capacity of the soil further than prudence would warrant. Every intelligent farmer should be the best judge of this matter; and having repeatedly tested the system, on a large scale, we can with confidence recommend the sowing of wheat after flax; but invariably the ground should be seeded down with clover and timothy with the wheat crop, in order that its fertility may be again restored for future crops. In those sections of country where the wheat plants grow exceedingly luxuriant, and are more or less disposed to rust, this great bane to the wheat growing interests, may be very materially obviated by sowing wheat after flax in the manner here described. The wheat plants by this means would grow shorter and stiffer, and would arrive at a much earlier maturity, than if the land had been summer fallowed; and as an antidote for such no system of cropping land deserves greater favor than the one here submitted for consideration. It is, however, subject to abuse by being imperfectly done, or by being repeated too frequently on the same soil. From the exhausting tendency of flax, even on the richest soil, it should not be repeated more than once in seven or eight years; and it is only advisable to cultivate the crop extensively where the soil is remarkably rich, and distinguished for the rankness of its vegetation. On soils of this description, cultivated in the manner described, from fifteen to twenty bushels of seed, and from three to four hundred lbs. of clear scutched flax, may be confidently anticipated per acre, and the profit yielded will be greater than that of most other crops, requiring an equal amount of labor and skill. W. G. EDMUNDSON. *Keokuk, Iowa, Jan.*, 1852.

It is better to suffer wrong than to do it.

Breeding Stock.

On an influence affecting the purity of blood in Stock.

Eds. Cultivator—The breeding and rearing of stock, especially animals of high and pure blood, is daily attracting an increased attention from the scientific and enlightened agriculturist; and, when the farmer succeeds in obtaining animals possessing the qualities sought for, there is no branch of his business that *pays* more generously in dollars and cents, than this; but so many failures are met with, and so many are disappointed in the progeny of animals, of even the purest and most renowned pedigree, that even among the enlightened, it is not seldom that we hear the advantages of *blood* questioned, if not denied; and it is more than intimated that the reason why animals possessing superior qualities, owe their excellence mainly to the care that has been bestowed upon them in regard to their feed, &c. In regard to other departments of agriculture, similar discrepancies of opinion do not obtain; and it would seem of importance to determine *why* this difference of opinion in this regard?

All are accustomnd to rely upon *experience*, and it must be allowed that in this matter, many who have been to considerable trouble and expense in their endeavor to improve their stock of horses, cattle, or sheep, by breeding from animals of the improved breeds, have *experienced* a grevious disappointment, in not finding the young to resemble the sire or the dam, as the case may be, as closely as they had hoped; and without being able to account for this fact, in accordance with any laws that are known to them, and only knowing that *they* have failed of the expected improvement in their animals, they have naturally come to deny, or at least to doubt, what others have told them. This has been one, and perhaps the main reason, why so little attention has been paid by the majority of farmers, to the introduction of imported and other improved races of animals.

But the English agriculturists seem to understand the causes of these failures; and, of course, how to avoid them; and it would be well if this information were more generally disseminated in this country.

The reason is this:—*The mother's system is influenced and changed, by the young she carries in her womb, and if the male parent be of a different breed, her blood is contaminated, and she rendered similar to a mongrel, for the remainder of her life.*

This assertion may startle many, who have given the subject no thought, but it is believed that no physiological fact is better established, or more susceptible of proof, than this; and as proof, I shall cite a few instances that have been noted by Dr. A. Harvey, physician to the Aberdeen Royal Infirmary.

He speaks of a young chestnut mare, seven-eights Arabian, that belonged to the Earl of Moreton, which was covered in 1815, by a Quagga, which is a species of wild ass from Africa, and marked somewhat after the manner of the Zebra. The mare was covered but once by the Quagga, and after a pregnancy of eleven months and four days, gave birth to a hybrid which had distinct marks of the Quagga, in the shape of its head, black bars on the legs, shoulders, &c. In 1817, '18, and 1821, the same mare, (which had in the mean time passed into the possession of Sir Gore Ouseley,) was covered by a very fine black Arabian horse, and produced, successively, three foals, all of which bore unequivocal marks of the Quagga.

Another case, similar to the above, is mentioned. A mare belonging to Sir Gore Ouseley, was covered by a Zebra, and gave birth to a striped hybrid. The next year this mare was covered by a thorough-bred horse, and the next succeeding year by another horse. In this instance, also, both the *foals* were striped, and in other regards partook of the characteristics of the Zebra. It is a matter of common observation, that when a mare has borne a *mule*, she is never after fit to breed colts, as they will have large heads, and otherwise resemble mules.

In the above mentioned instances, the mares were covered by animals, in the first instance, of a different *species* from themselves; but others are recorded, where they had bred only from *horses*, but by horses of different *breeds* on the separate occasions, and yet the offspring partook of the characteristics of the horse by which the *first* impregnation was effected.

Mr. M'Gillivray, in an article published in the Aberdeen Journal, speaks of several colts, in the Royal stud at Hampton Court, that were sired by the horse *Actæon*, that did not resemble *Actæon*, the paternal parent of the foals, but did bear a *near* resemblance to the horse *Colonel*, from whom the mares had brought colts, the year previous to their being covered by the horse Actæon. Again, a colt, the property of the Earl of Suffield, which was got by the horse *Laurel*, that it was strongly intimated by the jockies at Newmarket, that he *must* have been got by the horse *Camel* by stealth, on account of his close resemblance to the horse Camel. This resemblance was, however, satisfactorily accounted for, by the fact that the mare had been previously impregnated by Camel.

Many instances of a similar character, are recorded in regard to dogs—in fact the breeders of dogs all seem well aware that if the bitch has been impregnated by a mongrel dog, that even if the father of her next litter is of pure blood, the puppies will be liable to be mongrels.

Similar instances have also been observed in regard to swine, and the breeders of cattle have recorded similar facts. Mr. M'Gillivray, mentions several instances, and among them the following: "A pure Aberdeenshire heifer was served with a pure Teeswater bull, to whom she had a *first-cross* calf. The following season the same cow was served with a pure Aberdeenshire bull; the produce was a cross calf, which at two years old had very long horns, the parents both hornless. A pnre Aberdeenshire cow was served, in 1845, with a cross bull—i.e., an animal produced between a first cross cow and a pure Teeswater bull. To this bull she had a cross-calf. Next season she was served with a pure Aberdeenshire bull,—the calf was quite a *cross* in shape and color."

After citing other examples with a similar result, Mr. M'Gillivray says, "Many more instances might be cited, did time permit. *Among cattle and horses they are of every day occurrence.*"

Dr. Harvey also records many instances of similar results, as having occurred in the *human* family—but it is not thought best to include them in this paper.

This mode of impairing the purity of the blood of

animals, has been styled, *crossing the system* of the mother; and it is supposed, that the reason why so many inferior animals are to be met with, the progeny of parents of pure lineage, is almost wholly owing to the blood of the mother having been previously contaminated by the cross-bred young she has carried.

Of the *modus operandi* of this contamination, there is no explanation given, which is generally satisfactory, but it seems probable to the writer of this, that, inasmuch as the *same blood* must circulate through the veins of both mother and offspring,—that the system of the dam becomes *thus* modified and rendered in a greater or less degree similar to her mongrel young.

It is hoped that the reader will excuse the *length* of this article, on account of the importance of the subject; and also, because of the *novelty* of the facts—this being the *second* instance so far as has come to the knowledge of the writer, that it has been treated of by the Agricultural Journals of this country—an article from the same pen having been published last year in the *American Agriculturist*. C. H. CLEAVELAND, M. D. *Waterbury, Vt., Feb.* 1852.

The Different Hay Presses.

EDS. CULTIVATOR—In reply to the inquiries of your correspondent in regard to pressing hay, I will give you the experience of farmers in this neighborhood, (Durham, N. H.,) where the raising market hay is the chief agricultural business. Hay was pressed for the Portsmouth, N. H., market in this town twenty-five or thirty years ago, and the first press, and only one for several years, was on the farm of N. Woodman. That press was constructed on the model of an old cotton press, then used at Portsmouth for packing hay. It was an upright box, eight or ten feet high, with one large wooden screw, coming down in the centre through a beam at the top. This was stationary. Next was used an upright box with two smaller screws one at each end and a beam across, which was brought down by the screws. This was portable, and was carried about among the farmers, and the only one in town for some years. Either of these presses with four hands and a horse, usually put up twelve bales of hay per day or about two tons. About 1830, a new patent press appeared. The box was horizontal, or upon the side on the ground. The power was applied with cast iron wheel and pinion work. About three cog-wheels and pinions were used. It was precisely on the model of the small jack screw, used in loading cotton ships at the south. Next was used the same form of box, with the power of a large rope over pulleys, instead of the wheel works. In both these presses, four hands and a yoke of oxen put up, commonly, from twenty-five to thirty bales per day, or about four tons. Both were portable. Next appeared an upright box, in which the hay was pressed down from the top as in the first two above mentioned. The power was applied by chains winding on axles, turned with same power of wheel and pinion work. This was portable and did good service. Five men turned out thirty-five or forty bales a day, or five tons and more. Next came the presses now in use. One is called the Railroad press, and patented; the other is called the Elbow press, and is understood not to be a patent. Both have an upright box, and press the hay from the bottom upwards, and the bale is taken out above, on a staging, and weighed, and hoisted away with tackle and fall. The Railroad press has for its power, two beams coming near together under the box, and there attached with a hinge joint to a strong mass of wood, called a "follower," that moves up and down the box. The other ends reach out in opposite directions, and rest upon an iron rail on a strong timber, and are made so as to move easily over it, by a solid iron truck at the end. As they stand, they form someting like the letter A, only more flat. Then by chains, and a windlass and wheel in the center, the lower ends are drawn up till they are along the rail nearly perpendicular to the ground, and parallel to each other. So the power rapidly increases as it is most required. The Elbow press is in the main constructed in the same way, except that the power is applied by two toggle joints, (the joints of iron, and the arms of wood,) standing, when the follower is down, not unlike two V's placed opposite. (<>) They are then drawn together by a chain passing round a truck in the arms just below the joints, and wound upon a windlass in the centre, which is turned by a stout yoke of oxen drawing out a rope wound on the circumference of a large wheel attached to the windlass. Five hands with a yoke of oxen, where the hay is conveniently situated, will usually press from forty-five to sixty bales per day, or from seven to nine tons. Both these are portable. One yoke of large oxen is sufficient to work either, or to move them from place to place over an ordinary road.

The Elbow press is called the best, and is here preferred to the other. Both are used extensively. Durham is chiefly an agricultural town. It has about 1,500 inhabitants. In 1830, about 100 tons of pressed hay may have been sent to market. In 1840, as much as 500 tons were sold; and at the present time, 1852, no less than 2,000 tons of pressed hay are annually sent to market. Lee, Newbury, Greenland, Stratham, Rollinsford, and other neighboring towns, are largely interested in the same product.

To secure the bales, small withes of withewood, gray beach or alder, are used, about an inch through at the butt, and from six to ten feet long. Two, of sufficient length, are twisted, and the tops lapped and wound strongly together, making a band long enough to reach around the bale and tie. Five bands are put on a bale. The withes, trimmed ready for use, cost from 30 to 40 cents per hundred. The price for pressing hay is $1.50 per ton—everything requisite, use of press, oxen, withes, &c., included.

The cost of the Elbow press is from $100 to $200, according to the excellence of the material, and the work. The Railroad Press may be a little more.

If any, among your numerous subscribers, know of a better way of pressing hay, or of securing the bales, (for this now takes all the time of one good hand, besides the cost of the withes,) we should be glad to have him give us the information through your columns—as any improvement in this matter would be hailed with pleasure and satisfaction, by the farmers in this neighborhood C. F. W. *Durham, N. H., Feb.*, 1852.

Corn and Potatoes grown Together.

Eds. Cultivator—Last spring I had a piece of land of three acres and one-eighth, which I was intending to plant with corn and potatoes. Instead of planting each by itself, I concluded to try the experiment of mixing the two crops. I accordingly planted them in the following manner: Commencing upon one side, I planted two rows of corn, then one of potatoes, and then again two of corn, and so on with the whole piece, planting the rows exactly three feet apart, and the hills about twenty inches in the rows, both corn and potatoes. The corn from three to five grains in a hill, subsequently thinned to three—and the potatoes one in a hill, the size being from one half inch to one inch in diameter. When the corn was about four or five inches high, and the potatoes just coming up, I went through with the plow, turning the furrow from the rows. The corn was then hoed, without much hilling, and the potatoes were not hoed at all. The plow was again run through, turning the furrow towards the row, when the corn was from twelve to eighteen inches high, and the whole was then hoed. This was all the cultivation the crop received.

The corn was topped at the proper time, with the exception of two rows, which were cut up at the bottom, and put in small stooks. These rows were thirty-five rods long, and when the corn was thoroughly ripe, they were husked, weighed and measured; and the produce was 12 bushels and three pecks, weighing 464 lbs. Two rows were then picked adjoining those, which were topped, and exactly of the same length, and the produce was 13 bushels and one peck, weighing 485 lbs.

I will here state that the four rows upon which the experiment was made, were treated every way alike until the time of harvest. After husking, I carefully weighed and measured a bushel from each parcel—put each in a bag by itself, and hung them up to dry, intending to ascertain the shrinkage; but in this I was disappointed by the rats getting into one of the bags and destroying some of the corn. The corn that was cut at the root, was much the dampest at the time of husking and weighing, and it is my humble opinion that here lies the grand secret which causes so many of the experiments of this kind, to result in favor of corn cut at the root instead of being topped; for who does not know that corn which is kept from the influence (in a great measure) of sun and air, by being set together in stooks, will not dry so fast as that which is completely exposed to both, as in the case of that which is topped. And the difference in the ripening or drying process, will be still greater, if the favorite theory of the advocates of cutting up be true, viz: that the juices of the stalks thus treated, continue to flow to the grain more than they do in the case of that which is topped.

In regard to the comparative value of fodder obtained by the two methods, I will only say, that when I hear persons so stoutly assert the preference to be greatly in favor of cutting at the bottom, I am led to conclude that they have never tried any other way, for the reason that I never saw any cornstalks that stood in the field in stooks, until the grain was properly cured, that I should consider of much value to place before any live stock, with any other object in view, than to produce death by starvation. I cannot help, in this connexion, adverting to some remarks on page 296 of vol. 8, of Cultivator, New Series, from which I extract the following—"It has been proved that cutting off the top stalks lessens the yield of grain." This I do not doubt is true, in comparison with letting the whole plant stand unmutilated, until the grain is properly matured. Again, it is asked—"what other plant would bear such mutilation without injury." I would, with all deference, reiterate this question, with a slight alteration—what other plant would bear such mutilation as cutting up at the root, without destruction? It is further said—"Deprive the vine of its leaves, and the grape is imperfect." I should say, deprive the vine of its roots, and the grape is destroyed. So it is with the apple, pear, plum, &c.

The utility of cutting at the root, to secure from frost, in some situations and seasons, I fully admit; but I have never been under the necessity of practicing this mode, for this purpose, as my corn is always ripe before frost, owing to my planting an early kind, and my soil being warm.

I have multiplied more words than I intended, and have not yet given you the result of my experiment with the mixed crop, with which I commenced. I harvested 335 bushels of corn in the ear, and 125 bushels of potatoes, from the three acres and one-eighth, all accurately measured. The corn was perfectly ripened, and the potatoes were the finest that I have raised for many years, there being but seven bushels in the whole too small for market. They rotted on some parts of the field, I should think enough to diminish the crop at least 25 bushels. Deducting one-third of the ground planted for the potatoes, makes the produce of corn a trifle over 162 bushels of ears per acre. The best crops here do not probably exceed 40 bushels of well dried shelled corn, when planted in the common way. F. B. *Canaan, N. Y., Feb.*, 1852.

Specimens of Successful Cultivation.

In looking over the official account of the weekly exhibitions of the New Haven Horticultural Society, we find the following articles noticed, which, as we cannot judge of their quality at some hundreds of miles off, we give for their size. They could not have received bad treatment, and are therefore worthy of notice:—

May 21, 7 stalks of rhubarb, one measuring 42 inches in length, from E. C. Read.

June 11—2 stalks rhubarb, 4 lbs. weight, leaves 33 inches in diameter—from E. C. Read. Also, 1 cucumber 20 inches long and 7 inches round, from Prof. Salisbury.

June 18—2 heads lettuce, wt. 6 lbs. 4 oz., from E. C. Read. Also from the same, June 25, 1 head early cabbage weighing 3¾ lbs.

July 9—6 varieties gooseberries, 2 dozen of the largest weighing 11 ounces, from E. C. Read. Also, from Prof. Salisbury, 1 cucumber 26 inches long and 3¼ lbs. weight.

July 30—1 head cabbage weighing 18 lbs.—from Mrs. Hillhouse.

August 13—1 Mexican cucumber 4 feet 10 inches long—from E. C. Read. Also, 1 cabbage 14 lbs., from A. N. Skinner.

August 19—1 water melon, 27 lbs. from J. Fellows.

It will be observed that these were all made objects of public view, and the statements are unquestionably correct.

Oil Troughs for the Curculio.

EDS. CULTIVATOR—Among all the remedies which have been proposed for the wholesale destruction of certain fruits by the Curculio, I believe there is none which is at once so cheap and effectual, as to merit general, or very extensive application. I have been led to this conclusion principally, by my reading of the "Cultivator" within the last four or five years.

The object of this communication is to suggest one believed to be new in its application, and to present some of the considerations which have induced the hope that it may be found effectual.

The remedy I have to propose, is a trough of sheet lead, (or other suitable material,) placed around the trunk of the tree, and partially filled with oil. This was tried on a single plum tree, during the past season, by MR. ROBERT N. BASSETT, of this town, with results as favorable as could have been expected under the circumstances. The season was too far advanced, and most of the fruit had been stung, when it was applied. On the first morning after the application, he found a considerable number of the Curculios drowned in the oil, and in the course of the season, the trough became "half filled with them." A few of the plums which had not been previously stung, remained untouched, and in a healthy state.

This application was suggested to Mr. B. by his finding several Curculios on the trunk of the tree, which he supposed were making their way up; and by his observing that when he allowed those he had taken to fly off, they never rose, but invariably took a downward direction. His inference was that they usually, at least, reached the top of the tree by climbing up its trunk, and therefore, that any obstruction placed around the trunk, would prevent their reaching the top.

To conquer the Curculio, would doubtless be one of the most important achievements in fruit culture, which could be attained. Of the extent and destructiveness of its ravages, little need be said; they are too well, and too widely known. In this section, the plum, the apricot and the nectarine, in all their varieties, are forbidden fruit. The trees grow and bear well, but this destroyer has a complete monopoly of the crop. Cherries, if too abundant to be all destroyed, are at least half "wormy" at maturity. Apples, pears, quinces and even peaches, are also very extensively injured. I presume the same may be said of every portion of the country where the soil is light or sandy.

Believing that the *oil trough*, as used by MR. BASSETT, will be found a cheap, convenient, and effectual protection against the Curculio, I am desirous that it should be suggested to the public through your widely circulating Journal, trusting that it will be thoroughly tested during the coming season.

Most of your readers who have been in New-Haven within the last dozen years, will have noticed leaden troughs, (which are partially filled with oil,) encircling the numerous Elm trees in that city. They have been placed there, and are maintained by the city authorities, at considerable expense, to protect the trees from caterpillars, which, before their use, were often so numerous as to divest the trees entirely of their foliage before midsummer. I suppose the worm is hatched upon the tree, but is apt to fall to the ground, and instinctively returns by climbing up the trunk. This being the case the *oil trough* affords only a partial protection—yet it has served to preserve a tolerable degree of verdue on the trees throughout every season since its adoption. It is a most effectual trap for every worm or insect which attempts to reach the top of the tree by climbing up its trunk, and may be found to protect fruit trees against other enemies, besides the Curculio. H. *Birmimgham, (Derby,) Ct.*

Keeping Poultry.

EDS. CULTIVATOR—Having heard complaints that sundry persons, who had been induced to keep barn-yard fowls in large numbers, expecting to find it very profitable, from the accounts published in the agricultural papers, have been greatly disappointed in the result of their trials, as their fowls have cost them far more for their keeping than their eggs have sold for—I send for the information of such persons, to revive their hopes, and for the encouragement of others, to make trial of means which have been found so successful in cases where the trial has been faithfully made, the following account.

A man in my neighborhood has kept through the winter, twenty-five hens. Between the 1st of December, 1851, and the 1st of March, 1852, he has sold from what they have laid, fifty dozen of eggs, besides using in his family several dozen. As the winter has been a cold one, and the ground covered with snow, most of his neighbors who keep fowls, complain that they have had no eggs. He informs me, (and he is a man who may be relied on with perfect confidence,) that he has for several years managed and kept his fowls, in the following manner. A warm hen-house, where they can come to the ground daily—poles of Sassafras for them to roost on, which drives away the lice—a mixture of food, as corn, oats, and broom-corn seed, or cob-meal scalded, and in very cold weather, a little black pepper put into it. A little before they go to roost, give them as much corn as they will eat; give them daily some pounded bones, or pounded oyster shells; he considers bones the best; and if they omit laying for a few days, he boils oats, and puts into the mess a couple of red peppers, chopped fine, and the mess given warm. He says they will generally commence laying very soon after being fed in this manner. A regular supply of water is needful. He gives them fresh meat occasionally, when he can procure it without much expense. In his operations he is a man of economy, and has found it best to dispose of most of his fowls in the spring for the table, when they are always fat, and poultry high, and eggs cheap. He has found the half blood China fowls to be the most constant layers. JESSE CHARLTON. *East-Windsor Hill, Ct., March 2, 1852.*

FLOORS FOR PIG-STY.—The following good hint is furnished by the Massachusetts Plowman: "Styes ought to have floors laid on the naked loam, in order to be easily cleaned out. Inch boards of oak or chestnut, well fastened down, and kept covered with earth will last 20 years." This earth, when well mixed with manure, is easily thrown off the floor by the shovel.

Manufacture of Manure.

Last April I took it into my head that I would like to keep a cow and pigs; but then living right in the center of a *city* of 33,000 inhabitants, I had no place to keep them, saving a woodshed of ten feet square and one story high. Well I will tell you what I did. I dug, or (as Solomon built the temple,) caused to be dug, a cellar ten feet square, and seven feet deep under my woodshed. I took two planks, say eight inches wide each, ten feet long, and laid them up edgewise one upon the other, at the bottom of one side of my cellar—and eight inches from the side, or standing bank. This space I filled with paving stones of various sizes, then with a mixture of two parts sand and one of cement, thin enough to run into all the interstics, I filled in until it became full to the top of the stones; whilst this cement was setting, I would serve another side the same, and so on all around the sides. In this manner I made the sides of my cellar seven feet high. Then I paved the bottom and filled between the stones with cement as above, so that my cellar is water tight.

It took 9 casks of cement, at $1.50 per cask,....	$16 20
2 loads of sand,.....	1 25
	$17 45
Teaming of stone picked from my own land,...	3 00
Labor of an Irishman, six days,.....	5 00
Superintendency by myself, do.,.....	$25 45

I raised my shed one story for a hay loft, and floored the bottom. Now I have a good pig pen and cow barn. I have ample cellar room under my dwelling, main and S. front, say 20 by 70 feet, *dry* and *good* for wood, which I have cut in the street, and pitched into a cellar window.

But *manure*, that is the suject. With one pig and with the help of a cow during nights, from April to November, by throwing in scrapings from woodshed, and what litter and dirt would naturally accumulate about the house and yard, to do which I paid out $1.50 only, I made three and a half cords of manure, for which I was offered $4.50 per cord by several individuals; it was considered better than stable manure. The cellar being water tight, I found it indispensably necessary to throw in as much dirt as I did, for the hog to work upon, otherwise I should have lost him in the *mire*.

Therefore, if any one will make such a cellar, or pigsty as I have, I do not see how he can *avoid* making, say seven cords of manure, from one cow and one pig, in the course of a year. The cow of course stands over the cellar by which means the liquid as well as the solid manure is saved.

If you let your cellar become so wet as to get the pig mired, and he die, then of course you do not get your seven cords of manure, but if you will throw him meadow mud, loam, or chip manure enough to keep him tolerably dry you will get your amount. This also would be a good receptacle for soap suds and sink water, but if you put these in, you will have something to do to keep it dry. I am afraid your heap would necessarily increase to ten cords.

Some of your readers, (should you deem fit to publish this) will say, verily, this is book-farming with a vengeance, but it is the result of actual experiment. Water cisterns, vaults to privies, and especially barn cellars, may be built in the way above described, cheaply, permanently, and good. But short communications, I like to have forgotten. Yours truly, GEORGE MANSFIELD.
Lowell, Mass., Feb. 1852.

Theory and Practice.

Many cultivators insist that the most vigorous young grafted trees are produced by selecting and inserting the most vigorous shoots; that straight, upright shoots, will make straight trees; and side-ascending shoots will make bow-shaped trees; and that grafts taken from very old trees will not give us such durable specimens as those taken from such as are young. This appears to be theory, exclusively, and it is repeated by various writers with all the confidence afforded by long trial.

Now, for one or two items of practice. Some years ago, we tried a large number of experiments, by cutting, first, a bundle of grafts from very vigorous, straight, and upright shoots, on a bearing apple tree; and secondly, a bundle from the side shoots, all of which were curved or crooked. The grafts were inserted at the ground, into contiguous rows of stocks. For five years, not the slightest difference in growth could be observed. Again—a writer in the Gardener's Chronicle informs us that in 1824, owing to a large removal of old trees, he took grafts from more than four hundred, which were in "a state of complete decripitude," and putting them on healthy young stocks, they have all grown with remarkable vigor. "These trees, from twenty to twenty-six years old, and of which many had attained the height of more than thirty-six feet, all bore fruit in prodigious quantity, and were free from original disease, when they fell under the axe."

The truth is, the opinions referred to above, should not be dignified with the term "theory;" they are mere hypothesis—notion. Theory teaches the reverse—that is, that the eyes or buds which annually form, and thus continually produce new individuals, will multiply and grow perpetually, so long as they are not impeded or obstructed by external causes; which causes may be in the shape of bad soils, ungenial climates, bad cultivation, or from being located on very old and stunted trees which cannot furnish the necessary nourishment.

Analysis of the Strawberry.

B. KIRTLAND gives the following analysis in the Family Visitor, showing a large amount of potash in proportion to other constituents, much silica, and more magnesia and common salt, than are usually found in other fruits. One hundred and sixteen grains of the ashes were taken, prepared from the leaves and stalks immediately after they had borne a moderate crop of fruit.

Silica,.....	6.117	grains.
Charcoal and sand,.....	3.101	do
Perphosphate of iron,.....	1.515	do
Perphosphate of lime,.....	26.519	do
Magnesia,.....	8.908	do
Sulphuric acid,.....	1.469	do
Phosphoric acid,.....	6.970	do
Chlorine,.....	.708	do
Potash,.....	33.154	do
Soda,.....	2.790	do
Carbonic acid,.....	23.008	do
Organic matter and loss,.....	1.739	do
	116.000	do

GROUP OF FRENCH MERINO SHEEP.

The property of S. W. JEWETT, Weybridge, and H. S. MORSE and O. F. HOLABIRD, Shelburne, Vt.

Sheep Husbandry.

Eds. Cultivator—In your February number, I notice a communication from "W. M'C.," of West Hebron, Washington county, N. Y., on the subject of heavy and light wooled sheep, and I think his remarks on the subject are well worthy the attention of all wool growers; though I think he makes the difference between the classes he mentions, greater than generally exists; forty-four cents being a less price for wool that has any just pretensions to a Saxony stamp, and four and one half pounds being a greater weight than many Merino flocks will average. I think that a wool-grower, that does not make a fine flock average more than two and three-fourth pounds, and worth only forty-four cents, will hardly make a Merino flock shear four pounds, worth forty cents; as I think much of the profit depends on breeding, selecting, feeding, and attention; and that the same care that would make the fine flock yield three pounds, worth from forty-five to forty-eight cents, would make a Merino flock produce four and one-quarter pounds, worth forty cents; leaving the difference between the two, about thirty cents, and that is certainly of sufficient importance to claim the attention of all interested in growing wool. I have had considerable experience in growing wool, having been engaged in the business for thirty-five years, and having had the same flock without changing for twenty-five, which I bred for about ten years, with a view to make them fine; but finding their fleeces too light, and their constitution too tender for this climate, I determined to increase the weight of fleeces as fast as I could, without materially injuring the quality, and have succeeded so far as to make my flock, consisting of ewes and lambs, (as I keep no wethers,) shear three and three-fourth pounds, which sold at the depot in Kinderhook, in January, for forty-seven cents a pounds, making one dollar and seventy-six a fleece, including commission. My sheep have long staples, thick wool, very free from yolk; have strong constitutions, and are perfectly healthy, not one in two hundred and fifty having been ailing in any way, to my knowledge, this winter; and when I can get them up to four pounds per head, with about the quality they now have, I shall have accomplished all I ever expected to.

I have no doubt my flock would have shorn some two ounces more per head by this time, if I had not, some four or five years ago, sold all of two stocks of young ewes, and though I obtained a large price, I think I lost by the operation, as in consequence of that sale I have not been able, till last year, to raise the average weight, over about three and one-half pounds. I have no account of more than four sales, though mine has always been sold at the depot in Kinderhook since its establishment. Those sales have all been made in the winter. In 1848, it sold for forty cents, and for the three last years for forty-seven; showing that there has been no variation in the price of such wool; and I see by reference to my bills, that the assorting has been very uniform. The prices of low and medium wool, have been more fluctuating, and I understand that such wools are now dull, and that the prospect for another year is not flattering.

As my object in writing this, is to induce wool-growers to take more pains in breeding and managing their flocks, and as any knowledge I may have acquired, I am free to communicate, I shall briefly state how I have managed to make mine differ from most others.

In the first place, I have kept few or no wethers; consequently have raised a large number of lambs in proportion to the number of my flock, and have been able to sell about the number I have raised; and always, (except in the instance mentioned above,) have selected such as were most imperfect; making such selection when I tag them. I have made but little use of bucks of my own raising, but have procured the heaviest fleeced, stoutest built, and strongest constitutioned ones I could, without much reference to trouble or expense; and when I have found one near right, have used him as long as he remained vigorous, on old ewes not related to him. I think a judicious selection of bucks for any desired improvement, the most difficult matter that falls to the lot of a shepherd; and for that reason I have practiced using a strange buck on a few sheep, so as not to suffer too much, if he should make a bad cross; and I never buy a buck out of a flock that has not been well bred for a long time, fearing their stock may run back on some defects of their progenitors. It is well understood by all who are conversant with the subject, that no important, desirable change in any breed of animals, has been made in a short time; but rather that it takes a long time, and much attention, to produce a breed that will generally have the particular qualities desired. If, then, we are negligent in this respect, we cannot expect to improve. The principal reason why we have so few good flocks, is, because sheep-owners are so frequently changing them. This beginning every few years anew, gives no opportunity to become acquainted with the desirable qualities of particular animals. Such exist in all flocks that have any pretensions to excellence; and families, or the descendants of particular sheep, may be traced by a discerning person, in any flock of long standing; thus a little attention to any particular defects, such as coarse flanks, thin wool, or short or long toes, may be extirpated from a flock by disposing of such as possess them.

I think it important for every wool-grower to know how his wool assorts, to enable him to know whether he is going astray, or not, in his efforts to improve; and this is one important reason why I approve of the depot system of selling wool, and the more I see of its operation, the more I am convinced that it is for the interest of all who intend to have a good article, and in good order, to have it sold in a systematic way. Any excitement among speculators, which raises wool above its value to the manufacturer, invariably creates a reaction, and a decline on the next clip, which will more than counterbalance the advance on the previous one. Daniel S. Curtis. *Canaan Center, N. Y., March* 6, 1852.

Eds. Cultivator—Noticing a communication in the last number of the Cultivator, in regard to heavy and light wooled sheep, by W. McC., in which he asked for information, "where there are any of those fine Merinos, such as were common before the introduction of Saxony sheep, which cut heavy fleeces, with but little waste," I thought it might be for the interest of others, as well as my own, to give a short description of my sheep, which I think would answer your correspondent's description.

Although it would be unnecessary for me to go back to the origin of my flock, for those who have taken the Cultivator for eight or ten years past, yet for those who have not the back vols. I will do so.

The stock from which my flock have been bred, were purchased by my father, of A. HULL, of Vermont, in January, 1839. Mr. HULL purchased his stock of the Hon. WM. JARVIS, soon after he mixed his different flocks or classes of Merinoes, together, and as they approached nearer the Paular variety than any other, from Mr. JARVIS' description of the several varieties, which he gave in Cultivator, vol. 1, of New Series, page 127—they have been classed as Paular, being "of middling height, round bodied, well spread, straight on the back, the neck of the bucks rising in a moderate curve from the withers to the setting on of the head; their head handsome, with aquiline curve of the nose, with short, fine, glossy hair on the face, and generally hair on the legs; the skin pretty smooth, that is, not rolling up or doubling about the neck and body, as in some other flocks; the crimp in the wool was not so short as in many others; the wool was somewhat longer, but it was close and compact, and was soft and silky to the touch, and the surface was not so much covered with gum."

The above description of the Paular sheep, which I have quoted from Mr. JARVIS' communication, will nearly answer the description of my sheep at the present day, except that most of them are covered with wool on the legs, instead of hair.

It has been the constant aim of my father and myself, to increase the quality of the wool, combined with the greatest length of staple, and weight of fleece, and nearly free from gum. My present stock consists of about 80 ewes of the JARVIS stock—50 ewes and 30 bucks, a cross of the JARVIS and French Merino, from a buck of the TAINTOR importation, which are very superior for quality of wool, and 50 lambs from JARVIS and half blood French ewes, and an ATWOOD buck, which now promise to be very superior shearers.

My flock, for the last four years, has averaged from four and a half to five pounds, according to their condition and age. When my flock were all in good condition and good age, the average went as high as five pounds five ounces—bucks from eight to twelve pounds. For the last four years, my wool has sold for from 35 to 42 cents, selling soon after shearing.

If your correspondent, or others, should wish sheep from my flock, I will sell a few at prices as reasonable as could be asked, when the first expense of getting the sheep, and care in breeding is taken into consideration. Samples of wool will be sent to any who may ask them, and any other information in regard to the sheep, will be cheerfully given. A. H. AVERY. *Galway, Saratoga Co., N. Y., Feb.* 7, 1852.

You may inform your correspondent, W. M'C., that I have pure Merinoes, such as he inquired for, and will sell at reasonable prices. The last clip averaged four pounds nine ounces per fleece—sold immediately after shearing for 40 cts. per pound. So fine, white, clear, and clean was it, that the workmen in the factory said it was Saxony, (forgetting the heft of fleece.) Inclosed I send you a sample of one ewe, whose fleece weighed five pounds, and one from one of her lambs, sired by Scipio, whose fleece weighed eight pounds three ounces. B. H. ANDREWS. *Waterbury, Conn., Feb.* 11, 1852.

In the Cultivator of last month, is a communication from W. M'C., inquiring after heavy fleeced Merino sheep.

We have a flock answering the description inquired after. Our breeding ewes, 100 in number, shear from four to five pounds per head, of clean washed wool. This we sold in June last for 44½ cents per lb. This weight is obtained on very ordinary keeping, without any grain.

These ewes are now dropping their lambs, from a French Merino buck imported in June last—his weight is over 200 pounds, and weight of fleece from 20 to 25 pounds. If the wool-growers in Washington county are desirous of increasing the weight of their fleeces, and keep up the quality of wool, they can be accommodated. L. and A. WHITING. *Torrington, Conn., March* 8, 1852.

Jackets for Sheep

Every one familiar with the management of sheep, must be aware of the great importance of shelter in winter. A skilful farmer once informed us, that in consequence of the abundant protection by buildings, which he gave to his sheep, he was enabled to reverse the common rule in relation to their loss—he lost less in winter than in summer. An English writer says that an extraordinary reduction in the amount of disease and death has been effected by the use of jackets or small blankets applied to such animals as were necessarily exposed to all weathers. Coarse woolen blankets constituted the material; the jackets were 23 inches by 16, and the cost four pence each. Dr. Lee says that a breeder in Vermont, covers the back of each sheep with half a yard of common sheeting, painted, to shed rain—a cheaper material than wool.

"A Little Farm Well Tilled."

We have seldom known a better illustration of this expression, than is given in an account of a farm of fifty-six acres, belonging to ERASMUS LITTLEJOHN, of Middlebury, Mass. This farm was entered for the premium offered by the Plymouth County Agricultural Society. The premium was offered in 1848, payable in 1851—reference being had to the products of the years, inclusive. The 56 acres consist of 22 acres improved land, 12 acres unimproved, (now mostly planted to forest trees,) and 22 acres of woodland. The soil of the cultivated part is described by the committee who examined it, as mostly sandy and gravelly, except several acres of swamp, which have been brought into excellent meadow. Since 1848, he has raised on the 22 acres comprising the cultivated part of the farm, 488 bushels of Indian corn, at an average cost of 21 cents per bushel; 51 tons of hay, at the cost of $4 per ton; 484 bushels of potatoes, at 22 cents per bushel, "besides other vegetables." The report states that the net yearly profit on his farming operations, after deducting interest on the cost of his farm, labor, &c., were in

1848,	$561 54
1849,	582 31
1850,	610 81
1851,	810 92

A daily account has been kept of every item of expense on the farm, and credit given for products at their market value, or realised sales.

Suggestions for the State Agricultural Society.

Eds. Cultivator—That the State Agricultural Society has accomplished much for agriculture, no one will deny—that it might do more, is, I think, equally evident. Its annual fair, the premiums on farms, and essays on subjects of vital importance to farmers, and experiments to settle disputed theories or establish new facts, have each in their way tended to impart knowledge to the reading and thinking portion of the community. But there are others, and I regret to say that I fear the most numerous class, who are little benefitted by all this; they must have knowledge thrust upon them or they will not heed it; and it must be afforded them almost, if not entirely, free of expense, or they will even then reject it. They grudge the smallest expenditure, unless they can see clearly its return with a profit; the one dollar a year for the "Cultivator," or any other agricultural journal, is money so completely thrown away, that they feel themselves insulted if asked to subscribe.

It is in behalf of this class that I wish to say a few words. "The greatest good to the greatest number," should be the motto of the Society. The publication of tracts for gratuitous distribution, on subjects of direct practical benefit to every farmer, where the *profit* of the experiment is clearly portrayed, seems to be a proper initiatory step. These being received and read, the ice is broken; the mind has been turned in the right direction; an inquiring spirit is provoked, and the way opened for the introduction of agricultural periodicals and books. It is not necessary here to enlarge upon the topics to be treated of in this way; they will suggest themselves to any member of the Society; suffice it to say that they should have a direct practical bearing, and be on subjects of importance to every farmer.

The system of popular lectures, is another mode of disseminating knowledge. The Society could, at a small expense, procure the services of a few gentlemen, who should devote the winter months to travelling to the principal towns in each county. The state should be districted, for the purpose, and each county supplied, which would agree to pay the travelling expenses of the lecturer. These would be inconsiderable, for enough could be found I trust, who would take their horse and cutter for one day, and deposit him safely at the next town; or if the distance be too great, to be met by a committee and divide the space between them. In this way he could travel from town town throughout his district, at a mere nominal cost to any one. At the end of each lecture, a collection might be taken,—the sum raised to be forwarded to the State Society towards defraying its outlay.

Perhaps the most difficult part of the undertaking would be the selection of suitable persons to perform this duty. To combine a thorough knowledge of practical agriculture, with so much of theory and science as shall be suited to the capacity of those for whom the lecture is intended, is the great desideratum. Ultraism, Mr. Editor, is the curse of our country. I care not on what occasion it is manifested; whether in abolitionism or disunion, red-republicanism or absolutism, it is equally to be deprecated. The case of agriculture is not different. The mere mechanical drudge, who toils day after day, exercising but little more judgment than the cattle he is driving; the man who undertakes to reduce farming to a science, and who, fresh from his laboratory, issues his orders, and expects every thing to go on according to theory, will neither of them make a successful farmer. It is by a proper blending of the two, and studying nature in her various changes, accommodating onesself to the circumstance of soil and climate, and taking advantage of every new suggestion, testing the same by actual experiment, that we can hope to succeed in our profession. It is this ultraism, which should be avoided in the selection of lecturers. If proper men be chosen, I have no doubt a great benefit would be experienced, not only by the farmers themselves, but by the community at large. I have noted down these ideas, as they suggested themselves to me; the plan is worthy of consideration, for I desire that agriculture should adopt the motto of the State, "Excelsior."

Agricultural Journals.

There is no better proof of the rapid progress which is making, both in the improvement of the minds and the soils of our farmers, than is found in the increasing demand for agricultural works, both books and journals. Though we have, more or less new books on rural matters every month, the market is by no means overstocked. There is also a constantly increasing demand for agricultural journals; quite a number of new ones have been recently established, and all, or nearly all, both old and new, appear to be in a most healthy and vigorous condition. These facts show that our rural population, not perhaps as a body, but in large numbers, have had their prejudices against "book-farming," dispelled, and are now earnestly seeking for that information so necessary to enable them to manage their business most advantageously. We rejoice to see this spirit, and trust that it will extend itself until all our farmers shall esteem the aid afforded them by the press, as highly as do the members of the various professions.

The following have been added to the list of agricultural journals, since the commencement of the present year:

The Farmer's Monthly Visitor, Manchester, N. H., 32 pages, octavo, monthly, $1 per year. Edited by C. E. Potter, and published by Rowell, Prescott & Co. Agricultural, biographical and miscellaneous.

The Green Mountain Farmer, Bradford, Vt., semi-monthly, quarto, $1. L. R. Morris, editor; Morris and Bliss publishers.

The New-England Cultivator, Boston, 32 p. octavo, $1. R. B. Fitts & Co., publishers.

The Plow, New-York, 32 p. octavo, monthly, at 50 cents, has taken the place of the American Agriculturist. Solon Robinson, editor; C. M. Saxton, publisher.

The New-York Farmer, Rome, weekly at $1.50, and monthly at 50 cents. Elon Comstock, editor and publisher.

Northern Farmer, Clinton, N. Y., monthly at 25 cents a year. T. B. Miner, editor and publisher.

Western Reserve Farmer and Dairyman, Jefferson, Ohio, semi-monthly, $1. R. M. Walker and N. E. French, editors; G. B. Miller publisher.

Ohio Farmer and Mechanic's Assistant, Cleveland, weekly, $2 Thomas Brown, publisher.

The whole world has taken the place of Rome in granting indulgence to the rich.

Culture of the Blackberry.

In answer to an inquiry on this subject, we copy the annexed remarks and engraving, from Hovey's Magazine.

"The blackberry is likely to become one of the most esteemed of the smaller fruits. Since the introduction of the improved variety, about six or seven years ago—of which we have heretofore given several accounts, and whose cultivation has been so well detailed in our last volume, by Capt. LOVETT, of Beverly, who has been one of the most successful growers of the fruit—it has been very generally disseminated; and, the past year, many remarkably fine specimens were exhibited before the Massachusetts Horticultural Society.

"The liberal premiums offered for this fruit, by the Society, have had the good effect of producing very general competion; and so superior have been some of the specimens—so much larger than when first exhibited, evidently showing what care and attention will do for this as well as other fruits—that the Society have deemed it advisable to offer a high prize for a seedling, with the hope of still further improvement; for, although what few attempts have been made in this way, have not been attended with very favorable results, there is still good reason to believe that it will yield to the ameliorating influences of cultivation, as well as the strawberry, the gooseberry, or the raspberry.

"Our engraving represents a single cluster of the blackberry, of the ordinary size, under good cultivation. Several of the berries exhibited by Capt. LOVETT, C. E. GRANT, and other amateurs, the past season, measured *one and a half inches* in length.

"We can commend the blackberry to all lovers of fine fruit, as one which should in no case escape their attention. A dozen vines, when well established, will yield sufficient fruit for an ordinary family. For its cultivation we would refer to the article of Capt. LOVETT above mentioned; merely remarking that the berries should be allowed to *get fully* mature before they are gathered; otherwise much of their excellence is lost. They will drop from the stem, upon the least touch, when quite ripe."

Leaf-blight on Pear Seedlings.

ISAAC HILDRETH, who has long been engaged in raising nursery seedlings or stocks on a large scale, and who is a close observer as well as skilful culturist, has furnished some interesting facts on the leaf blight to a late number of Moore's New-Yorker. He considers the cause to be a parasitic fungus, like the rust in wheat; which is corrobated by repeated instances of its being borne through the nursery in the exact direction of strong winds, and in one case by a stream of water, carrying, as he thinks, the minute seed. He is therefore of the decided opinion that the only way to raise pear stocks with any prospect of success, is to select a piece of ground far away [miles] from any nursery where this malady has ever existed, and which has never been used for growing trees, and then cultivate the plants by tools never used in a nursery; for a single tree affected will soon poison by rapid multiplication, all the rest. A piece of old meadow or pasture, manured highly with well rotted stable manure and leached ashes, as much of the former as can be plowed and worked in, is particularly recommended; and thorough and clean cultivation, to impart health and vigor, is highly essential. By adopting this course he has been eminently successful, although formerly a large sufferer by blight.

HYBRID PERPETUAL ROSES.—We have often thought that one dozen sorts of Hybrid Perpetuals, *well selected*, would contain about all that is essentially desirable, although every cultivator might make a different selection, and different soils and localities would also have an important influence on the list. Hence the nurseryman who supplies them must have a greater number to pick from. Nevertheless, some of the greatest rose culturists are reducing their numbers. Rivers has brought his list *down* to *sixty-seven*, although a less noted neighbor retains his *one hundred and ten*.

Black Knot on Plum Trees.

Eds. Cultivator—There has been much speculation and research for the cause of the black knot on plum trees. Some persons have supposed it is caused by an insect. Some years ago I opened the knot and examined it, but did not discover any appearance of an insect, nor the eggs of one. So far as I know, it has not been satisfactorily learned what causes the knot.

The gardens of my adjoining neighbors are full of plum trees. All the trees are filled the black knot, so as to appear as if a flock of small birds had lighted on the branches. Some years ago, I advised the owners to cut off the knots so soon as they appeared, or they would lose the trees—they thought best to leave them to the course of nature. The second and third set of their trees are now in the condition I have described, while my trees are free from knots. I have always looked for knots, when in the garden, and when one appeared, I cut it off at any season, whether it was loaded with fruit or not. The trees soon put out other shoots, which filled out the place of the limb cut off, and my trees are in full size, as if no limb had been cut off, and there is not a knot to be seen on them. From this treatment, I am of opinion, that if a knot is suffered to remain on a limb, the disease soon spreads, like a canker, and fills the whole tree, as it has the trees of my neighbors. It is a misconception, that when a tree is set, it does not require further treatment.

Many years ago, I was in the habit of writing for the Cultivator, when it was conducted by our quondam friend, Judge Buel, and since, under your management; but, of late years, I have abstained from writing, because the type-setter has been so extremely careless or officious, as to add what I did not write, or substitute other words of different meaning from mine, thereby destroying the true sense.

I'll mention several cases. I gave a recipe of my mode of curing pork hams, by saying, that I put them into pickle of salt and saltpetre, after rubing them with sugar or molasses awhile before. The type-setter added, that *I rubbed them full of fine salt*. Another instance: I wrote, that Education formed the Gentleman and Christian. To illustrate this, I wrote that the delicate ladies of our cities, were too effeminate to walk the paved streets, except in fine sunny weather; and contrasted it, by saying, that when the country was a perfect wilderness, a single family settled near to Oneida Lake. *The son* said, that when his mother sought her cow in the woods afternoon, and did not find the cow, she made her bed *where* the night overtook her. The type said *when* the night overtook her, which spoiled the figure, as all animals take rest *when* night overtakes them, except wolves, thieves, bats and owls.

In another article, in speaking of the fleetness of the whale, as he appears to move leisurely, when he rises to breathe; the distance he has passed, shows that he moved like a steam engine, as he sculls with his tail, it being flat. The type said *he sails* with his tail. Yet another is within my recollection. In stating how the French peasantry of Lower Canada retain the ancient manners of their forefathers brought from France, that when they butcher a fat hog, they *singe off the hair with lighted straw*. The type said, *with feathers*. Ridiculous. I am entitled to a place in your Cultivator for the correction of these aberations, to ward off the ridiculous, to those who shall read my former communications. Respectfully, David Tomlinson. *Schenectady, March.*

Prices of Land in Virginia.

Eds. Cultivator—It is possible I have before troubled you with a communication of the like tenor; but I have received many hundreds of letters the last few months, from those desirous of emigrating, or making inquiries in relation to Eastern Virginia. I would say it is perfectly useless for a man without some means, (say $1,000 and upwards,) to think of emigrating here. There is no worse country for a very poor man; but with means as above mentioned, many excellent locations can be found. Most want a farm of 100 to 200 acres, well situated, suitably divided into tillage, pasture, mowing and woods. Woods and tillage are plenty. The other part is not here. The prices may be as follows: The writer knows a farm for sale, 18 miles from the city of Petersburgh, directly on the railroad, of 800 acres, 400 original growth, very comfortable buildings, at $5,000—one adjoining of 150 to 170 acres, (the writer's,) trifling improvements, mostly in woods—the timber will twice pay for the land, $600—one adjoining, 550 acres, much very good land, $2,000—one two miles from the last, 275 acres, comfortable buildings, $1,200—one adjoining, 1,300 acres and upwards, $5,000, large house, &c.; and probably there never has been ten bushels of grass seed sown on the whole. The lands above mentioned are rapidly rising in value, as many are commencing to improve their lands, by use of lime, marl, guano, &c.; and abundance of lands that three years ago would not produce five bushels of wheat per acre, will now and did the last season, 15 to 20, and that with very moderate improvement. In fact, everything that can be raised in the State of New-York, can be here, and with the same labor, in as great abundance. No country is more healthy, and railroads, &c., diverge in almost every direction. Those that see fit to address the writer, may address box 271, Petersburgh, Va.; and it would be useless for any one to waste money in time and postage, unless they have means as above.

Peach trees are now in bloom—oats, &c., are generally sown. Wheat, generally, looks backward. S. Clark, Jr. *Petersburgh, March* 16, 1852.

Salt as Manure.—The Editor of the American Farmer, says he has tried lime and salt, broadcast, upon part of a field of corn, the remainder of the field being treated with lime alone. Both parts had been well manured, and yielded well; but the part salted continued moist throughout the season, the other suffered much from drouth. He does not state the quantity applied. He thinks it would be an excellent dressing for grass lands.

The Corn Crop and California.—Professor Mapes says, "Our corn crop is now over 700 millions of bushels, and may be doubled on the same number of acres, by judicious manuring and cultivation. Seven hundred million bushels, if exported either as corn or lard oil, would produce $350 million dollars, and an increase of only ten bushels per acre throughout the country, would if exported, return us more gold than twice our receipts from California." Are not the home diggings the best?

ANSWERS TO INQUIRIES.

Tight and Open Barns.

L. C. B., of Middlebury, Vt., wishes to know "whether barns made as tight as possible, by double-boarding or battening, are preferable for keeping hay, to those built in the usual way."

There is no valuable portion in hay that is volatile, without decomposition or fermentation. Hence the common opinion, that in pitching over a load of hay in the open air, a large part of it is dissipated, is entirely erroneous. It may become dryer and lighter by the evaporation of moisture, but simple moisture is not nutriment. An acre of dry hay contains as much nutriment as an acre of green hay, although it may not possibly afford quite so much benefit in feeding, in consequence of not being so well assimilated, and it would be singular indeed if a ton, by a few minutes exposure to the wind, should lose a quarter of its substance, when a ton of stable manure requires weeks or even months, attended with constant, heavy, and fœtid exhalations, to lose a like amount. No doubt the notion originated from its light and loose condition causing more show than substance.

We cannot therefore perceive any disadvantage in an open barn, provided it shelters hay from the weather—neither does there appear to be any bad result from a tight barn, for the hay in the center of a large stack perfectly excluded from air, is not essentially unlike the exterior.

Value of Cobs as Food.

C. D. BENT inquires if there is "a certain flinty indigestible substance contained in cob-meal, or meal made from the ears of corn, that is very injurious to horses and cattle as a constant food."

We have heard intelligent farmers say that they would as willingly give horses fragments of pounded glass mixed with their food, as to feed them with cob-meal, on account of the small "flinty" pieces it contains. This is no doubt, too strong a view of the case, for we have known such food given regularly to working horses, for successive months, not only without producing sensibly any bad results, but they continued in as good order as on other food. Those *flinty* portions, however, are an evident annoyance to them, and if mills which grind corn in the cob, had a coarse sieve attached, for removing the coarser portions, the meal would doubtless be more valuable than that of the grain merely, from an equal weight of ears. Cattle, possessing more powerful digestive organs, do not appear to regard those objectionable portions.

According to Dr. Salisbury's analysis, the weight of cob is about one-quarter of that of the grain, and they contain about one half as much sugar for a given weight, as the latter. Their ashes contain a much larger proportion of potash, than that of the grain. But the chief constituent of the cob is woody fibre, forming about three-fourths of the whole, and it is the harder parts of this fibre that constitute these "flinty" lumps, so called, which are deemed most objectionable. But this fibre is not wholly without its use in going to support respiration and sustain animal heat, according to the well known principles of animal economy. Hence, though not rich in nutritive matter, the cob may be regarded as possessing some value, the only object required being the removal of the harder portions, as already suggested.

Ashes as Manure.

WM. P. BEDELL of Coxsackie inquires the best way to apply wood ashes to soils, "and on what kinds of vegetation it is most beneficial—the quantity necessary—when to be used, and the value per bushel to the purchaser."

We have much theory, and very little accurate experiment, on the application of ashes as manure. Theory is of great value, or rather it becomes so, when submitted to the test of varied, repeated, and rigidly accurate trial, in connexion with weighing and measuring. Guess work and vague estimate may satisfy the experimenter, but not the public. For these reasons, we are unable to give our correspondent much definite information on the subject.

Ashes are generally most useful on soils which have been long cultivated; because, as they are the mineral portion of plants, they supply the deficiency which has been caused by long cropping. Sometimes, however, new land is much benefitted, where the soil is naturally deficient in some of the constituents of ashes. Analysis may assist in pointing out such deficiency; experiment is an excellent mode of determining. Ashes will be beneficial to all crops on soils which lack its ingredients; the inquiry should therefore be, on what *soils*, rather than for what *crops*, is it most useful?

The quantity to apply, it is obvious, must also depend on the condition of the soil—it is not usual, however, to give a dressing of more than a few hundred bushels per acre. An analysis of the soil might exhibit the degree of deficiency, from which a calculation could be made of the amount needed by a growing crop; but such a calculation could only be regarded as a guide or illumination to experiment—the latter, carefully conducted, being the final test.

A good time for the application is in autumn, the moisture dissolving the soluble parts, which become well diffused through the soil before vegetation commences in spring. The time of year is not a matter of great moment, unless very large quantities are used.

As for the *mode* of applying—the object, plainly, is to incorporate it with such portion of the soil as the roots feed in; hence if worked in by a strong harrow, two horse cultivator, gang-plow, or even with a common rather shallow running plow, it will answer a good purpose, but when the two latter implements are used, the ground should be well harrowed first, after the ashes have been spread over, in order to mix them well with the earth.

Orchard Insect—Canker Worm?

A correspondent at Bristol Centre, Ontario co., N. Y., who has omitted to give us his name, states that about four years since, four trees in the center of an orchard were attacked by an insect that destroyed all the leaves, and have now spread all over the orchard. The past year every tree was stripped—the mischief was done early in summer, and not only leaves but young apples eaten. When stripped, the trees appear as if scorched by fire.

This insect is either the *Canker-worm*, so destructive

in some parts of New-England, or one nearly allied to it in habits. The reason of its spreading so slowly, is doubtless owing to the female perfect insect having no wings, and therefore being unable to travel far in laying its eggs. This is the case with the canker-worm, which is most destructive early in summer—which causes an orchard to appear as "scorched"—and which descends into the earth, undergoes its transformations, and comes out in the perfect insect late in autumn or early in spring, and lays its eggs by first crawling up the tree.

The remedies consist in keeping the insects from ascending the tree. The best is perhaps the following:—Take two pieces of board a foot wide and two feet long; hollow out a space in each, so that when placed together they shall enclose the trunk of the tree. Smear their under surfaces with tar, place them to the tree, and a large nail or two driven through one into the other at each end, secures them to their place. The crevices between the boards and the tree are stuffed with fine grass, wool, or swingling tow. Tar has been applied directly to the bark, but it injures or kills the tree, soon gets crusted in the hot sun, and the caught insects soon form a bridge, over which the rest pass. It is said that a substance much better than tar may be prepared by burning an old india rubber shoe over a dish, into which the melted substance will gradually drop, and form a viscid juice, which will not dry in a year. Perhaps a broad belt of worsted smeared with it, and placed round the tree, would answer the desired purpose. It should be applied by mid-autumn, and remain till the next summer.

In order that our correspondent may determine whether this is the true canker worm, (which possibly may have been conveyed there by some unknown means,) we annex Dr. Harris's description of the caterpillar, or insect in the larva state:—

A very great difference of color is observable among canker-worms of different ages, and even among those of the same size. It is possible that some of these variations may arise from a difference of species; but it is also true that the same species varies much in color. When very young, they have two minute warts on the top of the last ring; and they are then generally of a blackish or dusky brown color, with a yellowish stripe on each side of the body; there are two whitish bands across the head; and the belly is also whitish. When fully grown, these individuals become ash-colored on the back, and black on the sides, below which the pale yellowish line remains. Some are found of a dull greenish yellow and others of a clay color, with slender interrupted blackish lines on the sides, and small spots of the same color on the back. Some are green, with two white stripes on the back. The head and the feet partake of the general color of the body; the belly is paler. When not eating, they remain stretched out at full length, and resting on their fore and hind legs, beneath the leaves.

Sowing Buckthorn Seed.

Will it do to plant Buckthorn seed in the spring, and will it be necessary to scald them to promote their sprouting the coming summer. FARMER'S BOY. *Platte City, Missouri, Jan.* 10, 1852.

Buckthorn seed should be treated precisely in the same way as apple seed—that is, mixed with sand in autumn as soon as gathered and washed out; exposed to the weather in winter; and planted early in spring as soon as sprouting commences, or before. This we have found uniformly successful. Perhaps exposure to the weather is not essential, as we have tried no other way. Old seed will not grow. We know not the effect of scalding, but would rather not try it.

Burnt Clay.

MESSRS. EDITORS—I would wish to make the inquiry, if you know of pounded brick ever being used as a manure for top-dressing, and what its effects had been. I believe that chemists maintain that burned clay has the power of absorbing ammonia. Perhaps old bricks have been tried in confirmation of this theory. Not wishing to take a "leap in the dark," I would like to obtain some information through your paper. "A SUBSCRIBER." *Petersburg, Va., March* 9, 1852.

Burning clay soils, which has been found sometimes very beneficial, appears to operate, so far as the *clay* is concerned, more in altering its texture, and destroying its tenacity, than in any other way. Pounded brick could be of no use in any way but in affecting the texture of the soil, and would be a costly operation where some hundreds of loads would be required to produce any ma terial influence. There is enough clay in all soils to ab sorb all the ammonia they usually come in contact with It will be observed that the heat, in burning soils, operates in several ways, as for example in reducing the vegetable parts to ashes, rendering the lime caustic, &c. It appears never to be of any use except on heavy soils, and is most so on those with a large portion of decayed vegetable matter.

Applying Guano.

You will confer a favor by informing me what quantity of *Peruvian guano* should be applied per acre to Indian corn, and also the most approved method of application. Very respectfully yours, SAML. D. BOWEN. *Coventry, Rhode-Island.*

Two or three hundred pounds to an acre is usually considered enough—perhaps corn, which will bear much manuring, might have 400 lbs. We should, however, prefer not giving so much, and applying at the same time one-half the usual amount, more or less, of common yard-manure, more especially if the ground is not already well supplied with vegetable matter.

The best mode is to mix it thoroughly with several times its bulk of peat, or with soil which contains much mould, and let it remain several days before applying, when it may be treated as rich compost. If from necessity, it must be applied alone, it should be sowed in damp or rainy weather, and well harrowed into the soil. It may be then plowed under to a moderate or slight depth.

Wash for Brick Work.

Will you be so kind as to inform me whether there is any kind of composition that can be put on a brick house in the place of paint, as has been formerly used, a composition that is cheap and durable. Your obedient serv't., HEMAN B. HAMMOND. *Bristol, Ohio, March* 12, 1852.

On *hard, well-burnt* brick, simple lime-whitewash will adhere, become hard, and endure for many years, often quite as well as paint. The quality of the brick has much

to do with its permanence. Downing, in his work on Country Houses, gives the following:—"Slack half a bushel of lime in a barrel, by pouring over it hot water enough to cover it four or five inches deep, stirring till slacked—then fill the barrel two-thirds full of water, and add one bushel of water-lime. Dissolve in water and add three pounds of sulphate of zinc. The whole should be of the thickness of paint, ready for use with the brush. This wash is improved by the addition of a peck of white sand stirred in just before using. The color is a pale stone color, nearly white. To make it fawn color, add one pound yellow ochre, two pounds raw umber, and two pounds Indian red. To make it drab, add one pound each of Indian red, umber, and lampblack." This wash the author says he has tested thoroughly, and that it sets and adheres very firmly.

Sowing Timothy—Bone Manure.

EDGAR BURROUGHS, of Loudon Bridge, Va., makes the following inquiries,—1. The best time to sow timothy seed. 2. The quantity per acre, and 3. How many pounds of sulphuric acid will be required to 100 lbs. of bones to reduce them to powder, and what degree of dilution is necessary.

1. If the timothy is sown and lightly covered by mid-autumn, the young plants will get a good foot hold by winter. The oat crop is too thick in growth—wheat is better; but at the north, some farmers have been very successful by sowing grass seed as a separate crop very early in spring. If there is danger of its drying up by the hot sun, a mixture of clover might prevent this result.

2. Many sow only four quarts per acre, and consider this abundant—we prefer a peck, as giving a closer and heavier crop.

3. Fifty pounds of sulphuric acid will usually reduce 100 pounds of bones—perhaps 40 lbs. would do, if of the strongest quality. It should be diluted with about three times its bulk of water, added gradually. The best way is to apply it in separate portions in two or three successive days.

Analysis of Oil Cake and Wheat Bran.

Could you not favor the readers of the Cultivator with the analysis of the different kinds of oil cake, viz: that made from the large seed or Calcutta seed, and that made from the small seed or seeds of *Linum usitatissimum*. Also the analysis of wheat bran. By giving the above information I have no doubt you will oblige many of your readers, particularly inexperienced ones like myself. The cake meal of the small seed is much more mucilaginous and palatable than that of the large or Calcutta seed, but whether it is more nutritious I cannot determine. Yours respectfully. F. B. POLEY. *Montgomery Co., Pa.*

We do not know of any analysis of oil cake. The only analysis of bran now at hand, gives the following result, which is not very minute:—

	parts.
Soluble salts.....	44.15
Earthy phosphates,.....	46.50
Silica.....	50
Metallic oxides,.....	25

Prof. Norton says, "It is a singular fact, than in all the seeds of wheat, and of other grains, the principal part of the oil lies near, or in the skin, as also does a large portion of the gluten. The bran owes to this much of its nutritive and fattening qualities. Thus, in refining our flour to the utmost possible extent, we diminish somewhat its value for food. The phosphates of the ash also lie to a great degree in the skin."

Destructive Orchard Caterpillar.

N. H. NOYES, of Otisco, N. Y., inquires for a remedy for the destructive caterpillar which stripped orchards of their leaves last summer, so generally, in large portions of Onondaga and Cayuga counties. As this differs from the common orchard caterpillar in having no nests, it cannot be easily destroyed in a wholesale manner, and we do not know of any practicable and effectual remedy. We do not possess any other material information in relation to it than was given in the Cultivator for August last. More than 20 years ago it stripped the forests in some parts of Cayuga county, but soon after disappeared, except in small numbers, until its formidable re-appearance last year.

Information Wanted.

We shall be glad to receive replies to the following inquiries, from some of our readers:—

CLOVER MACHINE.—Please let me know in your next, what machine you recommend as being the best for threshing clover. B. D. *Montreal, March* 24.

FEEDING OIL CAKE.—I would inquire through the pages of the Cultivator, what proportion of oil cake meal Mr. Johnston mixed with corn meal in feeding fattening cattle. J. W. G. *Ball's Pond, Conn.*

FEEDING POULTRY.—I should like to make an inquiry respecting the best management and feeding domestic fowls, where they are kept expressly for their eggs. Is it best to give them all the grain and other stuff they will eat? Will high feeding make them too much inclined to fatten, rather than lay? I would like to see an article on this point, in your paper. SALMON COOK. *North Springfield, Vt., Feb.* 26, 1852.

USE OF LIME.—I have a quantity of air slacked lime, which I wish to apply, at the rate of about 10 bushels to the acre, to corn and potatoes, manured in the hill, on rather light-yellow loam soil. How shall I apply it, to insure the best result to crops this season? The lime has been burned some two years. H. H. HARRIS. *Moriah, Essex co., N. Y.*

Will you please inform me through the columns of the Cultivator, how many cows a fair sized yearling bull with good keep, will serve without injury to himself or produce. SUBSCRIBER. *Swanton, Vt., March* 15.

We have had no experience on this subject, that would enable us to answer this inquiry understandingly. Youatt, however, who is usually regarded as very high authority in such matters, says that a bull should never be used at that age—that "it is absurd and dangerous to begin when a yearling—he will come in season at two years old—he will be better at three." This is all the information he gives on this subject.

Temperance is the best physic.

NEW PUBLICATIONS.

RURAL ARCHITECTURE; being a complete description of Farm Houses, Cottages, and Out-buildings, comprising Wood-houses, Workshops, Tool-houses, Carriage and Wagon-houses, Stables, Smoke and Ash-houses, Ice-houses, Apiary or Bee-house, Poultry Houses, Rabbitry, Dovecote, Piggery, Barns and Sheds for Cattle, &c.; together with Lawns, Pleasure Grounds and Parks; the Flower, Fruit, and Vegetable Garden. Also, Useful and Ornamental Domestic Animals for the Country Resident, &c. &c. &c. By LEWIS F. ALLEN. C. M. Saxton: New-York.

This work is designed to afford suggestions and furnish models to the farmer at every step of progress, from the selection of a site for building, till the dwelling is completed, the out-buildings erected, the grounds laid out, the shrubbery planted, the farm stocked, and the entire fixtures of a homestead are ready for the occupant.

This is a great deal for one man to undertake in the compass of a book of 384 12 mo. pages; but the author has gone through the whole catalogue quite masterly, thinking, talking, recommending and criticising in his own style. He has followed the teachings of no master-builder, adopted no order of architecture, but in a sort of *sui generic* way been guided by a taste, formed by close observation of the prominent wants of the farmer, rather than the study of architectural rules. Most of the designs for farm-houses strike the eye favorably, their expression being rather that of convenience and repose, than of gaudy show or artistic effect. The spirit in which the book is written, is eminently calculated to recommend it to an extensive circulation. It cannot fail to exert a good influence wherever it is read, to improve the taste, and give the farmer and general reader many timely and valuable hints.

HISTORY OF THE UNITED STATES OF AMERICA. Written in accordance with the principles of peace. By M. MURRAY. B. B. Mussey & Co. 441 pages.

This neat volume comprises the history of the country from the discovery of Columbus till the close of the Mexican war. The authoress, a highly esteemed member of the Society of Friends, while evincing strong feelings of patriotism and much attachment to political liberty, has adopted as a leading principle that the value of history depends on its strict impartiality and *truthful coloring*, without regard to national pride or national prejudice; and that the promptings of true patriotism will seek, not the concealment, but cure of national defects. This intention appears to be carried out with much candor as well as ability. However views may differ on the subject of war, we are confident that it will be generally conceded that most of our histories exhibit altogether too much of its glitter, with very little of its real miseries or enormous cost. Believing, as we always have done, that agriculture and rural improvement are especially the great arts of peace, and can never flourish in the midst of the storms of war, we cannot but hail with pleasure this attempt to promote in the rising generation the feelings of the superior patriotism of peace and justice.

HARPERS' NEW MONTHLY MAGAZINE. Harper & Brothers: New-York.

This publication has met with a reception altogether unprecedented. The publishers have recently purchased "The INTERNATIONAL," and if the union of the two combine the talent and excellencies of both, we shall have a periodical, American in its character, elevating in its influence, and above competition. The series of articles, by Rev. J. S. C. ABBOTT, on Napoleon, are alone worth the subscription price. "The Bleak House," the first chapters of which are in the April number, promises to equal the best of DICKENS' popular works. As a social reformer, DICKENS holds the first rank—no abuse of power is too kingly to escape rebuke, and no public wrong sufficiently legalised to pass review unnoticed.

PICTORIAL FIELD BOOK OF THE REVOLUTION. By B. J. LOSSING Harper & Brothers: New-York.

The twenty-first number of this work fully sustains the previous encomiums, we have expressed. The cursory reader of history, will be instructed by it, and the antiquarian delighted with the treasures it brings to light.

HORSES—their varieties, breeding, and management in health and disease.

DOMESTIC FOWL AND ORNAMENTAL POULTRY.

THE HIVE AND THE HONEY BEE, with an account of the diseases of Bees, and their remedies.

THE HOG, its origin and varieties, and treatment under disease. C M. SAXTON, New-York.

The above are the titles of a series of hand-books, which contain, in a cheap and convenient form, much that is desirable for every farmer. Their author, H. D. RICHARDSON, is extensively known in England, as a reliable and popular writer, and their contents will repay a careful perusal—besides twenty-five cents will buy either of them.

THE AMERICAN ROSE CULTURIST. C. M. Saxton: New-York.

This book gives a full catalogue of the different species and varieties of the Rose; the most approved methods of cultivation, propagation, pruning, &c., together with directions for the treatment of the Dahlia. It is a seasonable issue, and no one need say, in defence of his vacant lawn, that he is ignorant of how to cultivate the Rose. Price 25 cents.

A PRACTICAL TREATISE ON MANURES. E. S. Jones & Co., Philadelphia.

This reprint from a publication of the British Society for the Diffusion of Useful Knowledge, comprises a treatise on the nature and properties of Vegetable, Animal, and Mineral Manures; modes of preparation and application, and their effect. Though the result of experiments on a foreign soil, and more particularly adapted to English climate, much that is useful may be found in its pages.

PLANTATION AND FARM INSTRUCTION, REGULATION, RECORD, INVENTORY AND ACCOUNT BOOK. J. W. Randolph, Richmond, Va.

A Southern Planter has reduced to a complete system, the entire business of a Plantation, and publishes it as a guide to others. The minuteness with which the detail of all the operations on a plantation is treated, is a model for farmers. Why should not some northern farmer do the same for the benefit of the agricultural community?

GRAHAM'S MAGAZINE. Geo. R. Graham: Philadelphia.

The Editor seems to understand to perfection, the art of combining the pleasing and instructive, the beautiful and the true. Its illustrations are finely executed, and its contents original.

NOTES FOR THE MONTH.

Award of Premiums.

It appears by our books, that the following gentlemen are entitled to the PREMIUMS for the largest lists of subscribers furnished for THE CULTIVATOR for 1852, prior to 10th of April:

1.	J. P. Mills, Galesville, N. Y.,	185 subs.	$50
2.	A. Cary, Fort Plain, N. Y.,	161	40
3.	Hiram Mills, Lowville,	134	35
4.	H. & J. Brewer, Springfield, Mass.,	126	30
5.	James Wells, Johnstown, N. Y.,	100	25
6.	L. W. Curtis, Madison, N. Y.,	90	17,50
7.	P. Stedman, Chickopee, Mass.,	90	17,50
8.	F. R. Williams, Havre de Grace, Md.,	78	10
9.	A. S. Thurber, Rouse's Point, N. Y.,	59	5

The above prizes will be paid in cash on being called for.

To all others, who have sent us thirty or more subscribers, THE HORTICULTURIST, will be sent for the year 1852.

To all who have sent us fifteen, and under thirty, THE HORTICULTURIST will be sent for six months.

☞ We have entered and sent the Horticulturist, so far as we know, to all who are entitled to it; but as it is possible that some mistakes may have occurred, we will thank any agent who may be entitled to receive the Horticulturist, to give us immediate notice if he has failed to receive the numbers from January.

ACKNOWLEDGMENTS.—Communications have come to hand, since our last, from A Plowman, D. Lackland, L. Durand, A. D. C., Subscriber, W. G. Edmundson, S. Clarke, Jr., J. L. Pope, P., L. W. Martin, Chester County, David Tomlinson, Platanus, C. H. Cleaveland, F. M. R., Sanford Howard, A Subscriber.

BOOKS, PAMPHLETS, &c., have been received as follows: Dr. BRINKLE's Remarks on Entomology, before the Penn. Ag. Convention.——Package of Seeds, from Hon. T. EWBANK, Com. of Patents.——A Treatise on the Potato, with an Essay to show the Cause of the Disease, and to suggest its Remedy, by WM. J. A. BRADFORD.—"Deer Peas," from Mr. L. S. W. FOLSOM, Choctaw Nation — For list of books received, see Notices of "New-Publications."

☞ The continuation of F. M. R.'s "Notes of a Tour in France," came too late for this month, as did also several other communications intended for this number.

"A Subscriber," at Princeton, Illinois, will find his inquiry about mowing machines, answered in our last number, p. 130.

☞ Some one at Greenfield Center, has requested us to inform him by mail, where he could purchase Bremen Geese and Aylesbury Ducks, but as he has omitted to give us his name, we could not write to him; and would say here, that we do not know where either can be procured.

☞ In answer to several inquiries about Poultry, we would state that we know of none of the fancy varieties to be had any where in this vicinity.

DAIRY-FED PORK.—An impression prevails, more or less, in this country, that pork from swine fed on whey or skimmed milk, is not as good as that fed wholly on Indian corn. It is probably true that a mixture of food produces the best quality of flesh; but to suppose that the waste of the dairy has a tendency to injure the quality of the pork, is evidently erroneous. Richardson, in his late treatise on the hog, observes,—"The Wiltshire bacon is of peculiarly delicious quality; but the cause is obvious, and is not to be referred to any of the details of the curing process. This bacon is prepared from *dairy-fed* pork. This is the true secret."

PUBLIC SALES OF IMPROVED CATTLE.—Our readers will notice by advertisements in this paper, that two large public sales of improved stock are to be held in this State, the coming summer—the first, that of L. G. MORRIS, Esq., to take place at his farm at Mount Fordham, near New-York city, on the ninth of June, consisting of Short-horn, Devon, and Ayrshire cattle; South-Down sheep, and Suffolk and Essex pigs. It is a gratifying evidence of the increasing demand for pure bred stock, that Mr. MORRIS' previous sales have been such as to induce him to continue his importations and annual public sales.

Mr. ALLEN'S SALE, it will be seen, is to take place near this city in August next, and will be one of the largest yet held in the State; and at a season of the year when our southern and western friends are usually more or less in this section of the country, the attendance will probably be large. From the long experience which Mr. ALLEN has had as a breeder, and in the excellent material which he has from time to time ingrafted into his herd, we think the most fastidious judges of fine stock, cannot but find something among his numerous animals which will gratify their choice. To such as wish to obtain good milking cows, as well as choice blooded animals, the opportunity for good selections will be a rare one. There is no one appendage to the comfort of housekeeping, more difficult to obtain, than well-bred, good-looking, deep-milking cows; and our people are beginning to find out that it is quite as easy to keep a *good* cow as a poor one, and infinitely more agreeable to the sight to have a fine, well developed creature about them, than a poor unhappy looking thing, yielding little profit in her milk, and no pleasure in her sight.

FRENCH MERINO SHEEP.—We give in this paper, portraits of several of the French Merinoes, imported by Mr. JEWETT of Vermont, last year, and now owned by him and Messrs. MORSE and HOLABIRD. These sheep have been so favorably received, that Mr. JEWETT has, as we are informed, again sailed for France, to procure another lot.

LIVE AND DEAD WEIGHT OF HOGS.—Samuel Linn, of Ohio, states in the Patent Office Report, that he thinks one-sixth, (instead of one-fifth, the common rule,) is about the true estimate of the difference between live and dead weight. A hog weighing alive 242 lbs., weighed when dressed, 202 lbs., a loss of one-sixth. Doubtless the breed would affect the result; a big-headed, heavy-legged race, might give a different result from those specimens of neatness, the Suffolks and Berkshires.

HABIT OF VARIETIES OF POTATOES IN WITHSTANDING THE ROT.—It has always been known that certain varieties of potatoes were more inclined than others to be affected by rot. The Carters, and the Mercers, or Neshannocks, have generally perished badly. A striking comparison of the different habits of varieties in this respect, was shown to the writer by WM. S. KING, Esq., Manton, R. I. He planted a piece of ground, last year, to the Mercer, and a round blue potato, in alternate rows. At the time they were dug, the blue potatoes were entirely sound, but the Mercers were so much affected with rot, that nearly the whole of them were left on the field.

Osage Orange Hedges.—Countless miles of hedges of this plant are set out in the state of Illinois, and as D. F. Kinney remarks in the Prairie Farmer, "they will have either a great deal of good fence, or a vast amount of worthless brush, in a few years"—doubtless the former, if unsparing pruning is given. "I was told there were some hedges in the vicinity of Galesburg, only two years old, that were considered sufficiently strong to resist all attempts of animals to get through them." This was in a very fertile soil, where trees outgrew those at the east, two or three to one. The Overmans, nurserymen, in Fulton county, in that state, we are informed have two million Osage Orange plants for sale—a strong expression of their confidence in its usefulness.

Saving Manure.—The Michigan Farmer gives the practice of a Scotch farmer, in the saving and management of his manure, which we cannot but regard as eminently economical of its fertilizing qualities, and worthy of general adoption except in the depth of winter, when it may be delayed. To prevent dissipation by evaporating and washing, he draws it away as fast as it is thrown from the stable, piles it up in some convenient place on the farm, first placing a layer of the fresh manure, to a depth of 8 or 10 inches, then a layer of common soil about four inches thick, which presses the course down to about the same thickness, then another layer of manure, which in like manner is followed by another layer of earth, and so on till the pile is completed. In this way the volatile portions are preserved, and he asserts the manure is of double value to what it would have been lying in the yard.

Remedy for Curculio.—Thomas W. Ludlow, Jr., states in the Horticulturist, that he has effectually repelled the curculio by syringing the trees with whitewash made of unslacked lime, with a small portion of flour sulphur mixed through it, that is, "a handful or two" of sulphur to a "pailful" of whitewash. Twenty plum trees had blossomed for six years without fruit; two were syringed the present year, and the result is, one is so loaded as to need propping. [Quere—what about the other tree? We are not informed—the best to be said at present of this remedy, is, that it is worthy of further trial.]

Fattening properties of Peas and Beans.—These articles have been found by chemical analysis, rich in nitrogen. The inference has been that they would be specially useful in supporting the waste of the muscles of animals, and it has been suggested that they would be particularly useful in the production of wool. They are, evidently, valuable for these purposes, but not the less valuable for the production of fat. Those persons who have used peas for fattening hogs, consider them worth as much as Indian corn. In districts where that grain is not readily grown, very fine pork is produced from peas. Dickson, in his work "On the breeding of Live Stock," states that a sweepstakes was entered into between five East Lothian farmers, to be claimed by the one who should be pronounced the best feeder of cattle. Forty cattle of the same breed, and in equal condition were divided between them, as fairly as possible. They were put up together the second week in September, and killed at Christmas following. The winner of the stakes fed his animals wholly on *boiled beans*, with hay.

Reclaiming Swamps.—The Editor of the Michigan Farmer says, that the application of 25 loads of clay per acre, to drained swamp, produced a wonderful effect in fitting it for wheat, in an experiment he witnessed in England. Clayed and unclayed, were both treated with guano; but while the clayed portion was as high as his head, stood thick, with long heads, the other presented only the appearance of ordinary wheat.

Trees and Shrubs.—One of the most perfect specimens of thorough gardening, both as relates to fruit and ornamental trees, is furnished by the grounds of H. W. Sargent, near Fishkill, N. Y. After trying the English Evergreen shrubs, he found them poorly adapted to this climate, such as hollies, laurels, laurustinus, &c., and rejected them. But he has succeeded quite satisfactorily with the following, viz: *Magnolias*—conspicua, soulangiana, tripetela, purpurea, glacilis, glauca, longifolia, and macrophylla; and the following *pines*—cembra, excelsa, pinaster, pumilis, Lambertiana, Gerondiana, austriacus, maretta, and maratina.

Strong Horses.—The Editor of the Michigan Farmer states that he saw cart-horses in Liverpool, England, much smaller than the London cart-horse, but apparently not inferior to them in strength, (and which he thinks are of the Clydesdale breed,) which were "hauling" cotton and guano, load after load, up hill and down, with five or six tons to a load, two horses being attached to each.

The Farmer at Home, is the title of a new work now in press, by Rev. Dr. Blake, author of the "Farmer's Every-Day Book," and many other valuable works. It is intended as a cyclopedia of the more important topics of modern agriculture, and in natural history and domestic economy. C. M. Saxton, publisher, New-York.

New-York State Agricultural Works, Albany. N. Y.,

BY WHEELER, MELICK & Co.

THE subscribers offer this season a new and most valuable machine in the successful combination of a *Winnower* with their Overshot Thresher. It is easily driven by one Double Horse Power, and has been now fairly tested, a large number having been in constant use during the past Threshing season.

We have numerous letters from gentlemen who have used the Winnower, and gave extracts from a few of them in our advertisements of last month, and we now insert a few more. We might add a large number, but it is deemed unnecessary.

[*From R. Olney, of Portage, N. Y.*]

"*Messrs. Wheeler, Melick & Co.*—I will now state some facts in regard to your Thresher and Winnower. We first used it to thresh Oats, which were good, and not very long straw. With 5 hands we threshed and cleaned, fit for any market, 60 bushels per hour, while running. This is not guess work as is frequently the case, but we kept the time to the minutes, and much larger figures might have been made had we exerted ourselves. Our Wheat *was heavy growth and very long straw*. We averaged 20 to 25 bushels an hour, using a pair of mules, and a span of very light horses, alternately, but with either team alone, and 5 hands, I can thresh 400 bushels good Oats a day, and half that quantity of Wheat, and make it no harder for team or hands, than ordinary farm work. The machine is admirably adapted to the farmer's use; can be worked at so little expense, and in bad weather, when little else can be done. It is of the most simple and durable construction, their being nothing liable to break or soon wear out, but that a common farmer can repair. It cleans the grain well, and wastes less than any other I ever examined. I write thus minutely, that you may understand the facts as they are; the figures I have given being taken from our ordinary threshing, without any effort to hurry business."

[*From S. H. Olney, of Granger, N. Y.*]

"*Messrs. Wheeler, Melick & Co.*—I have used your Patent Horse Power and Winnower while it threshed about 3,000 bushels of grain, and am happy to say it has given the best satisfaction. With a light pair of horses and 5 hands, we have threshed from 50 to 60 bushels of Oats per hour, and about half as much Wheat. My ordinary day's work of Oats is from 250 to 300 bushels, and 125 to 150 of Wheat. I can confidently recommend this machine to farmers, as superior to any I have used, although I have used various kinds for about 15 years."

[*From Chester Olney, dated March 1, 1852.*]

"*Messrs. Wheeler, Melick & Co*—Last fall I employed Mr. Olney, with one of your Powers and Winnowers, to do my threshing, and I most cheerfully state that the work was done better, with a less number of hands, and less waste, than ever before, with other machines. It averaged from 20 to 30 bushels per hour of Wheat, and twice as much of Oats."

[*From N. Olney, Esq., of Portage, N. Y.*]

"*Messrs. Wheeler, Melick & Co.*—You ask my opinion in regard to your Thresher and Winnower, but as two of my sons, and one of my neighbors, have given you some details, I will merely say that in my opinion your machine will do better work than any I have ever used, although I have used many different kinds for the last 20 years."

[*From a second letter of E. French, Esq., Bridgeport, N. Y.—Dated March 9, 1852.*]

"*Messrs. Wheeler, Melick & Co.*—I am not able to do your Winnower the justice it deserves. I have used it since August, and it has earned $500 without asking for work, while other machines have been begging for it. I have had a man running it who has an eight Horse Machine of his own, and good of its kind, but he could not get work with it. I have taken pains to exhibit the operation of your machine, and have seen none but pronounce it the most perfect in use. It has threshed 25 bushels per hour, and is capable of threshing 200 bushels per day, of good Wheat. My Wheat was of the "Soles" variety. I sold it from the Machine for seed, without other cleaning. Oats it will clean better than any Fanning Mill I ever used."

[*From E. T. Tiffany, of Dimock, Pa.*]

"*Messrs. Wheeler, Melick & Co*—I consider your combined Thresher and Winnower, one of the best machines ever introduced into Northern Pennsylvania. I have used one of them through December and a part of January, and did more business than any other 4 machines in this place. With a good team, I can thresh 400 bushels of Oats per day, and I think with an exchange I could thresh 500 or 600 and with less waste and expense than any other machine in existence. Could I get experienced workmen, I would order one or two more. It would be the best investment I could make. I can make better profit with one of your machines, than can be obtained from any two farms in Susquehanna Co. Your Thresher and Winnower receives the highest approbation of our farmers."

[*From Samuel Tucker, of North Evans, N. Y.*]

"*Messrs. Wheeler, Melick & Co.*—In reply to your request about the Thresher and Winnower, I am ready to answer that it works well. Indeed its equal was never seen in Erie Co. I have threshed 18,794 bushels of Wheat, Oats, and Barley, besides 50 Busnels of Grass Seed. A number of my neighbors want machines like mine."

☞ Price of Double Power Thresher and Winnower, $225.

The superiority of WHEELER'S PATENT RAILWAY CHAIN HORSE POWER, and OVERSHOT THRESHER and SEPARATOR, is universally acknowledged. Thousands of them are in use, many of which have threshed from 50,000 to 100,000 bushels of grain, and are still in good condition. Probably more than four times as many of these machines were sold during last year, as of any other kind. They are beyond doubt the most durable and economical machine in use. Their capacity has been tested by repeated trials, as well at the New-York and Pennsylvania Fairs, as on several private occasions, in competition with another machine made in this city, which has been advertised to be far superior to ours, and in every instance the result has been about *one third*, and in some instances more, in favor of our machines. In every case except one, where we have submitted our machine to a *working* test at Fairs, it has taken the highest premiums, and in that excepted case, the Committee decided that our machine performed its work in 8 minutes, and its competitor in 11¾ minutes, being nearly one third in favor of ours.

We have also exhibited ours in competition with the same machine, at the State Fairs in Ohio, Michigan, and Pennsylvania, and also at the Provincial Fair in Upper Canada, at all of which we received the highest Premiums, viz: In Ohio a Silver Medal and Diploma; in Michigan $20; in Pennsylvania $10; and in Canada a Diploma.

We have numerous similar testimonials from County Societies, where we have always received the highest premiums awarded to Chain Powers.

Price of one Horse Power, Thresher, Separator and Belting,.. $120
Two Horse, do,..... 145

Besides the above, we manufacture and keep constantly on hand, among other articles, Clover Hullers, Straw and Stalk Cutters, Portable Saw Mills, (adapted to Horse Powers,) and Single Powers, with Churn Geer attached. These last are extensively used in large Dairies, and are so arranged that the Power is used at pleasure for either threshing, churning, wood-sawing, or other purposes.

☞ All machines made and sold by us, are *warranted to give satisfaction*, or they may be returned, after a reasonable time for trial. Orders are solicited, and will be promptly filled.

WHEELER, MELICK & CO.
Corners of Hamilton, Liberty & Pruyn Streets,
(Near the Steamboat Landing,) Albany, N. Y.
May 1, 1852.

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